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ABSTRACT

In 1980, the Office for Minority Education of the Educational Testing Service sponsored a conference to explore the theme of fostering excellence for minority public school students. Each of the papers included in this book provides a different perspective on the conference's theme. Stephen J. Wright gives an extensive look at the evolution of minority student education, highlighting the problems that have been faced and those yet to be faced. Ronald R. Edmonds, Richard J. Murnane, and Michael H. Kean cite the results of their own efforts to uncover strategies for accurately assessing the effectiveness of schools in promoting positive student performance; they focus, respectively, on a school improvement project, teacher effectiveness, and reading achievement. William M. Boyd, II, challenges the attitude that today's students are unable or unwilling to learn, citing the success of A Better Chance, Inc., in identifying and providing support to highly competitive and talented minority high-school-aged students. Virginia C. Shipman's paper highlights factors that facilitate or inhibit the growth and development of children considered disadvantaged. Tommy M. Tomlinson presents a model for assessing the potential for, and context for, a school having a positive impact on any student. Finally, Ernest Q. Campbell looks back at the era of the first Coleman report; examines the academic, political, and social issues highlighted by the conference theme; and makes recommendations for future inquiries on schooling. (Author/CMG)

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THE MINORITY STUDENT IN PUBLIC SCHOOLS: FOSTERING ACADEMIC EXCELLENCE

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MONOGRAPH NUMBER THREE

Office for Minority Education • Educational Testing Service

What Can Public Schools Do to Foster Academic Excellence for Poor and Minority Students?

**Proceedings of an Invitational Conference
May 1980**

**Sponsored by the Office for Minority Education
Educational Testing Service
Princeton, NJ 08541**

The Office for Minority Education (OME) was established to coordinate the continuing efforts of Educational Testing Service to address issues of access to educational opportunities and academic achievement of minority students. To this end, OME provides information, technical assistance, consulting, training, and materials to school systems and colleges for use in planning, developing, conducting, and evaluating programs for minority students in such areas as assessment, bilingual education, instruction, student self-management, and test awareness.

For its monograph series, OME tries to identify authors who are thoroughly familiar with specific topics related to minority education. Authors are encouraged to express freely their points of view. The opinions stated are those of the authors and do not necessarily represent the views of ETS.



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INTRODUCTION

Robert L. Jackson, II
Director
Office for Minority Education
Educational Testing Service

One of the major factors leading to the planning and organization of this conference is the belief that the opportunities for enhancement of public education are optimized when a dialogue is maintained between those who conduct research on education and those who practice the art or science of educating. Although a conference on educational matters is not an unusual occurrence, the topic of this one, "What Can Public Schools Do to Foster Academic Excellence for Poor and Minority Students?," represents an ambitious but necessary goal.

The goal is ambitious because the prevailing assessments of public education, in general, suggest that we are in a period of educational decline. It is necessary because the ability of Black, Hispanic, and Native Americans to demonstrate academic excellence within the broader structure of society, as well as in our own communities, is fundamental to increasing opportunities for equality throughout this society. Simultaneous to holding such a conviction, I recognize that the roots of discrimination—racial and class bias—are not necessarily responsive to the demonstration of excellence by minorities and that the attainment of the latter in no way guarantees the elimination of the former.

Maximizing intellectual activities a national resource

The pursuit of academic excellence can be significant in spite of the denegrating effects of racism. Acceptance of this concept, as fitting quite properly within the province of public education, affords us an opportunity to elevate the mission of mass public education from having an initial ignoring focus and later a socializing, controlling

focus for minorities to accepting the necessity of developing a liberating, problem-solving focus.

Valuing the promotion and nurturing of the academic acuity of minority and poor students would signal an acceptance of the existence and value of cultural and racial diversity in this country and may well aid our recognition of the growing interrelationship needed between this nation and the world community of nations. Such recognition would be most valuable in developing world accord and harmony. Such a shift, operationally and historically, would, I believe, represent a realization that maximizing the intellectual abilities of all Americans is as much a part of our national resources as oil, natural gas, and coal.

To reach this goal will require a great deal of effort. Far too often in our present educational settings, the prototypical minority and poor students are characterized as entering the educational arena unprepared to perform the tasks anticipated and valued by the schools. Consequently, the academic future of these youngsters is depicted as bleak at best, unless a "miracle" or other form of "divine intervention" occurs. It is possible to hear educators lament, "These kids can't be expected to learn this material." There is also widespread evidence that minority and poor students on the average perform less well than their nonminority, nonpoor cohorts. These data serve to "demonstrate" that comparable performance often fails to occur. Failing to demonstrate comparable performance serves to reinforce the certitude of the inability to perform comparably. Thus, the cycle is completed—an "if you could, you would and, if you haven't, you can't" analysis more in keeping with prekindergarten argumentation than scholarly research. Of course, the verbiage is infinitely more refined and subtle, but the logic is the same.

Some researchers have attempted to demonstrate that the consequence of such dismal outlooks or lowered expectations of student output may well set in motion a series of interactions that produce the "expected" performance.

Other investigators have suggested that, while the preschool experiences of the prototypical minority and poor students do not equip them to undertake learning activities as well as the preschool experiences of nonminority and nonpoor students do, the schools are unsuccessful in ameliorating the problem.

McDonald and Elias (1976) suggest in their work that one can note sizable and significant variances in student performance in

association with specific teaching behaviors. One implication is that schools can indeed have an impact on performance, regardless of the economic and ethnic characteristics of the students. Further, it should be remembered that there are data suggesting that the disparity between the poor and the nonpoor, the minority and the non-minority, students increases as the students remain in school. Clearly, such data indicate that schools tend to exacerbate initial differences. Such findings are indeed indexes of school effects, albeit with a negative or inverse relationship to the accepted "expectations."

An important area of inquiry, needing greater attention than it has been given to date, is to assess the possible negative impact of the initial passive orientation that schools take toward students. This orientation is reflected in the posture of student "readiness," a concept that, on the one hand, is supposed to be sensitive to principles of child development, but, if rigorously adhered to, suggests inertia on the part of institutions mandated to foster, promote, and nurture learning—in short, to have an aggressive role.

Beyond effectiveness to excellence

Each of the papers presented here provides a different perspective in addressing the theme of the conference. Wright gives an extensive look at the evolution of minority student education, highlighting the many problems and challenges that have been faced and those yet to be faced. Boyd offers a challenge to the attitude that today's students are unable or unwilling to learn, citing the success A Better Chance, Inc. has had in identifying and providing support to highly competitive and talented minority high-school-age students. The presentations of Edmonds, Murnane, and Kean cite the results of their efforts to uncover strategies for accurately assessing the effectiveness of schools in promoting positive student performance. Tomlinson presents a model for assessing the potential of, and context for, a school having a positive impact on any student.

The presentation of Shipman highlights factors that facilitate or inhibit growth and development of children considered disadvantaged. The paper by Campbell is a unique look back at the era of the first Coleman study; an examination of the academic, political, and social issues suggested by the conference theme; and recommendations for future inquiries on schooling.

While we achieved one objective in the conference, the interface between the practitioner and the researcher, we barely introduced the second objective, academic excellence. It is a reflection of the condition of education today that we have, as a paramount concern, a realization of minimal competencies in our public school arena. It can be argued that the road to academic excellence must lead first to insuring some minimum standard. But such an argument must guard against the assumption that excellence may flow through the same structure as minimal qualifications. Although we have not given an unambiguous response to the query about academic excellence, we hope we have pricked the intellectual curiosity and appetites of a critical mass of concerned educators and researchers to move beyond securing school effectiveness to an advocacy of academic excellence.

Reference

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Keynote Address

EDUCATION OF MINORITY STUDENTS: PROBLEMS AND CHALLENGES

Stephen J. Wright
Chairman
External Advisory Committee
Office for Minority Education

Dr. Jackson put his instructions for this presentation in these words: "We would like you to focus on the topic of the educational evolution for Black Americans—expanding the focus from issues of access and retention to promoting academic success for minority students." To do justice to so comprehensive an assignment would require a presentation of unendurable length. But I shall resist the temptation; in fact, I shall deal with the evolution of education for Black Americans in a very capsuled form.

As I reflected on how to deal with the evolution aspect of the task, it occurred to me that my own long life spans more than half the time since 1865 and that I have personally experienced or witnessed half of that evolution and that I could illustrate most of its aspects from my own experience—I hope without appearing to be self-serving.

Problems of access and inequality

As we review the education of Blacks over the 115 years since 1865, we find that it has been characterized by two very crippling problems: the problem of access to both schools and colleges and the problem of inequality—the unequal public school systems and the unequal higher education systems that served Black people almost 100 of those 115 years.

These persistent problems have had profound consequences and implications that, in effect, have to this day made equality of opportunity for Blacks impossible and have resulted in wasted lives for uncounted numbers of them. Let me illustrate something of the nature

of the problem of access. The problem of access gave rise to the Black college in the first place. My mother and father attended Shaw University and, for them, it was Shaw or some similar private Black college or nothing.

When I began elementary school, there was no public elementary school system for Blacks in the South worthy of the name and no public high school system for Blacks at all. The Julius Rosenwald Fund devised an ingenious formula for building a reasonably adequate elementary school system for Blacks in the South. That formula involved one-third of the cost of a school building being raised by Blacks, one-third by the city or county, and one-third given by the Rosenwald Fund. More than 5,000 such schools were built, and I am a graduate of a six-month Rosenwald school with a seventh grade education—the style in North Carolina at the time.

When I finished the seven-grade school, there was no public high school for Blacks within a radius of 125 miles of my home. In fact, even a major city like Atlanta did not have a public high school for Blacks until 1924. There were private academies in various places in the region, and Black institutions such as Howard, Fisk, Morehouse, and Hampton had academies attached. This constituted a serious problem, my father having died when I was five. But somehow I managed to enter the academy at Hampton Institute, from which I was graduated, as that department was being phased out, in next to the last of its classes. I knew about Hampton because my mother's twin sister had gone there. But I was the only youngster out of my elementary school class to go directly to high school. This was typical of the time and the region.

Following my graduation from college in 1934, I was employed to teach in a three-teacher high school in Maryland. I taught the high school sciences and world history, and, except for four alcohol lamps, my total scientific equipment and supplies for general science, biology, chemistry, and physics were in two shoe boxes. In many ways, this high school was typical of very many Black high schools at that time. It did not approach its White counterpart in building, equipment, curriculum, or anything else, and no one expected it to.

As a young Black college graduate, I did not have access to any public graduate program or professional school anywhere in the South. Later, when I was a young college teacher, the state of North Carolina paid my tuition for doctoral study at New York University.

Progress through litigation

Beginning about 1935 and continuing until this day, a period of some 45 years, there has scarcely been a year without one or more cases involving access or some other form of unequal educational opportunity for Blacks before the courts of this land.

I first served as an expert witness in a federal court in 1950—30 years ago. The issue was unequal schools in the separate-but-equal era. Just two years later, I served as an expert witness of record in *Brown v. Board of Education* when desegregation was thought to be the answer to the problems of access and inequality. That case was decided 26 years ago. Ironically, I am presently retained by the U.S. Department of Justice in the *Adams* case in Louisiana. This case has as its purpose desegregation of public higher education—an effort to enforce Title VI of the Civil Rights Act of 1964—and, too, involves the critical problems of access and inequality.

In the intervening years, some substantial progress has been made, despite the *DeFunis* and *Bakke* cases:

- Access for Blacks *has* been improved.
- Black colleges and universities *have been* greatly improved; four public ones having been authorized to confer doctoral degrees.
- Public school systems, especially in the South, have made substantial progress toward desegregation.
- More than 1 million Blacks are now enrolled in higher education, nearly 80 percent of them in predominantly White institutions, although approximately 50 percent are in community colleges. This enrollment picture would have seemed incredible just 15 years ago.

It is important to recognize the progress made because it represents the product of effort on the part of many people and, if effort does not produce some progress, future effort would be difficult to justify or sustain. Nevertheless, there are still crippling problems of retardation, inequality, and attrition with their direct effects upon access and opportunity, especially in the northern ghettos. In this connection, I could scarcely believe what the Kerner Commission report said following the Detroit riot in 1967: That just to bring the

teacher-pupil ratio of the ghetto schools in Detroit in line with the average for the state of Michigan would require 16,500 additional teachers at a cost of some \$13 million annually. This, of course, was never done.

The Hispanic experience

The Hispanic educational experience has been similar to that of Blacks, but with some major differences:

1. Many Hispanic children lack a working command of the English language in situations where the medium of instruction—text-books, workbooks, libraries, and the spoken word—is English.
2. The schools have done far too little to understand and utilize the cultural differences Hispanic children bring to the educative process.
3. A system of colleges and universities similar to the Black colleges and universities is lacking.
4. Very little factual information exists that describes the inequities and the disparities upon which corrective programs must be built.

Just in the past few weeks, the National Center for Education Statistics has issued a 268-page report entitled *The Condition of Education for Hispanic Americans*, which, as far as I am aware, is the first comprehensive look at the fundamental problems of Hispanics by the federal government. It paints a grim picture:

- Nineteen percent of the Hispanic youth between the ages of 14 and 19 drop out during high school or even sooner.
- Forty percent of all Hispanics between the ages of 18 and 24 do not graduate from high school.
- Nine percent between the tender ages of 8 and 13 are two or more years below their grade levels.
- Only 49 percent of an estimated 766,000 Hispanic children who speak little or no English are receiving instruction in English or bilingual training.

The best that can be said where American Indian children are concerned is that their situation is far more serious than that of either the Blacks or the Hispanics. Here again, hard data are difficult to obtain.

Urban ghettos

Just a week ago, the *Washington Post* carried an article on the public schools of the District of Columbia, which are about 90 percent Black. I cite just two statistics from that article because they are characteristic of Blacks and other minorities in major urban centers where these populations are concentrated:

1. Students in the District of Columbia score some 200 points below the national average on the SAT and rank in the lowest 20 percent of all students in the nation taking the test.
2. The average ninth grader in the D.C. schools reads and does mathematics at the sixth-grade level. That is a retardation of three years.

This last statistic reminds me of the saddest educational document on public schools I have ever read. It was published in 1964, entitled *Youth in the Ghetto*, and prepared by Harlem Youth Opportunities Unlimited. I mention this because it was published 16 years ago, and I am persuaded by all I read today that little or nothing has changed fundamentally where ghetto schools are concerned.

Cycle of failure

Dr. Jackson's instructions included the tough problem of promoting academic success for minority students. There is neither the time, nor do I have the wisdom, to do much more than touch the surface of this aspect of the assignment, but, directly or indirectly, I have been wrestling with this problem most of my professional life, and I have reached the point where I have more humility about it than I had 25 years ago, having, during the intervening years, read more studies, attended more conferences, and engaged in more bull sessions on this issue than I can even begin to recall.

If we are serious about promoting academic success for minority

Education of Minority Students: Problems and Challenges

students, the first thing we have to do is to recognize the enormous complexity of the problem. Once this recognition takes place, we know that cosmetic approaches will accomplish nothing. Many cosmetic approaches and even some fundamentally sound ones have been attempted, but very few, to my knowledge, have dealt with the complexity in any fundamental way. Let me suggest some of the dimensions of the complexity.

The children and youth we are concerned about are caught up in what Deborah Elkins once called a "vicious cycle of failure," and this vicious cycle is sustained by what Dan Dodson, some years ago, called the powerlessness of the minority community, which damages the self-image of its members. We get some sense of the powerlessness of this community when we realize that 25 percent of the Hispanics and 27 percent of the Blacks in the nation are *below* the 1975 poverty line. This tends to breed not only powerlessness but hopelessness. Effective education requires a positive self-image; it likewise requires some optimism concerning the future—the belief that effort makes a real difference.

The home, being the first "school" that all of us attend, is critical in the education of the child. The typical minority home in our inner cities cannot do for the preschool child what the middle-class American home can and does do. A minority child may not even have a quiet place to study. Thus, the typical minority child brings to school a vocabulary that is too small to achieve academic success in school, a stunted self-image, no clear sense, provided by the home, of what education can do for him or her, and few role models to emulate. More importantly, the great probability is that the minority child will be taught by teachers trained to teach only American middle-class youngsters. Ironically, these teachers can be White or Black or Hispanic. Moreover, because minority students are different, too many teachers are quick to stop trying to motivate them or hold high expectations for them.

Everything points to the need for minority children to have schools that are at least equal to those provided for middle-class American children and that are, in addition, sensitive and responsive to the special needs of minority children. But everyone knows that this is far from the case; they are, instead, overcrowded, staffed by inexperienced teachers, and housed in old, unattractive buildings. What is more, they are characterized by serious retardation, high dropout rates, and the "cycle of failure."

Eight principles for success

This brings me to what I call the eight principles for the academic success of minority children:

1. The key change agent for promoting academic success on the part of minority students must be skillful, dedicated teachers who respect children and youth, who actually believe they can and will learn if properly taught, and who understand the types of homes and cultures from which these children come. Such teachers do not survive and develop unless they have educational leaders who believe the same things.
2. The development of minority children's self-concept or self-image is essential to academic success. They must be imbued with the conviction that they can, with the necessary effort, succeed in doing school work and even excel in those things in which they have talent. Even the Supreme Court of the United States recognized this basic principle in the landmark *Brown* decision. "A sense of inferiority," it said, "affects the motivation of a child to learn."
3. The reinforcement of the home—especially at the elementary level—must be appropriately involved. It must share with the school the expectations for the child.
4. The minority child must be taught that education is not only important but that it is imperative for life in America beyond mere existence and that, like other things in life, the prizes, at every stage, generally go to those who excel.
5. The basic conditions of the schools must be made conducive to learning—meaning, among other things, that disgracefully high pupil-teacher ratios cannot be tolerated and that the key tool subjects of reading and mathematics must be taught in classes small enough to assure success. For new evidence, such as that provided by Glass, Cahen, Smith, and Filby, shows that significant progress is made when classes are made small enough—20 and below.
6. The assessment of student progress—thoroughgoing assessment—must be made at critical points on the educational ladder to determine whether students are performing at grade level or not, whether that fatal retardation is cumulating or not. These criti-

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cal points tend to occur at about grade 5 and toward the end of junior high school, when reading skills, mathematical skills, and basic writing skills are at their critical stages. Those in need of help would then be required to attend summer sessions under the best teachers that can be found in the system. Informed counseling would be a part of the program.

7. The identification of those with academic talent should be a continuing process, with special efforts made to nurture talent and use it, where possible, for leavening purposes.
8. The extensive use of minority role models should be a regular part of the program, preferably in small groups where questions can be asked and something approaching "hands-on" contacts can be made.

Some compelling considerations

The justification for this conference rests, I think, upon some compelling considerations:

1. A sound education is now the only reasonably assured means by which a minority child can have a fighting chance to survive and advance in this increasingly sophisticated society of ours.
2. The public education provided for the overwhelming majority of the poor and the minorities of this nation is not adequate to provide a fighting chance for survival and upward mobility.
3. Serious concern for this problem has gone out of style in this era of Proposition 13 mentality, changing national priorities, and rising conservatism.
4. Without some very effective interventions, the situation will get worse, not better. This makes the situation urgent.

We have some very thoughtful people addressing us during the course of this conference and some very thoughtful participants to respond, to question, to suggest, and to recommend. I hold high the hope that, by the time we adjourn, something will happen here that will set in motion a renewed attack on one of America's most serious problems—a problem that will be exacerbated by the prospect that the minority youth of this nation will constitute 25 to 30 percent of

Stephen J. Wright

the population by the year 2000. And these minority students, with whom we are concerned, will echo the words of Ralph Ellison:

If you show me how I can cling to that
which is real in me,
While teaching me a way into the larger society,
Then I will not only drop my hostility, but
I will sing your praises and I will help
You make the desert bear fruit.

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First Day Sessions

IMPROVING THE EFFECTIVENESS OF NEW YORK CITY PUBLIC SCHOOLS

Ronald R. Edmonds

*Senior Assistant to the Chancellor for Instruction
New York City Public Schools**

I have been asked to talk about my efforts to translate research I have done into a program for school reform in the country's largest school system. So I am going to summarize the research, in which I have enormous confidence, in about five minutes. Then I am going to spend a good deal longer talking about something in which I have a good deal less confidence. That topic is, How do you translate what you believe to be sound research conclusions into a program in which the intent is to modify the interaction between schools and the children in those schools who ordinarily do not profit from the way we do things?

In 1973 my colleagues at Harvard and I began a research project that collected income, social class, and family background data on all children in grades 3 through 7 in a number of schools and school systems in various places throughout the United States. We followed our collection of income and social class data by collecting achievement data on the same children for all the years they had been in school. We then analyzed the interaction between those data to find schools that had gone very far along the path of abolishing the traditional interaction between pupil performance and family background.

Effective schools defined

We began with the premise that we would nominate a school as being effective if, and only if, it could demonstrate for at least three years its ability to deliver basic school skills to the full range of its pupil population. The school populations we were studying had at least 16 percent poor children and ranged all the way to 99.9 percent poor children. We did succeed in finding numbers of elementary and

*Now Professor of Education, Michigan State University

Improving Effectiveness of New York Public Schools

intermediate schools that were consistently effective in their abilities to deliver basic school skills, which we now call minimum competencies, to the full range of the pupil populations they serve. That was the identification part of the work.

After that aspect of the work, we went to a second set of questions that interested us. Since these effective schools do exist, and they exist in American cities throughout the United States, what is there about them that makes them that way, particularly when one compares them to other schools serving highly analogous pupil populations under highly similar institutional circumstances? What are the characteristics of the schools we determined to be effective that distinguish them from the schools we were compelled to identify as being ineffective? We did sufficient controls to be certain that, if we did identify institutional differences, those institutional, organizational characteristics would account for the difference. The variations in the character of the pupil population, the neighborhood, or the circumstances under which the schools functioned were insufficient to explain the dramatic achievement differences we consistently found across the city schools we were studying.

We concluded that the explanation derived from only five institutional characteristics. They were style of leadership in the school; instructional emphasis; climate of the school; implied expectations derived from the teachers in the classroom; and, finally, the presence and use of, and response to, standardized instruments for measuring pupil progress. Schools that had these five characteristics all together at the same time consistently represented the population of effective schools as contrasted to the population of ineffective schools. Remember that our definition of effectiveness is fixed almost exclusively on how well the school performs for that portion of its population that is poor. We never nominated a school as being effective, no matter how well its middle-class children did, unless the portion of the pupil population that was poor was achieving, at least proportionately, at a rate virtually identical to the achievement rate of the middle-class children.

Premises for New York City schools

I want to talk to you now about taking these conclusions out of the university and imposing them on school systems. The first thing I did

when I went to the city was to write and disseminate a pedagogical party line—the teaching and learning premises on which the New York City schools were to proceed from that point on. The premises were fairly few.

First, the New York City public schools presume that all the children in school are educable. Premise two is that the educability of the children derives far more from the nature of the school to which they are sent than from the nature of the family from which they come. If the research has taught us anything so far, it is that, while Coleman et al. are correct in the assertion that pupil performance is highly correlated with family background, they are profoundly incorrect in the conclusion that family background is the cause of pupil performance. This was one of the primary questions to which we addressed ourselves as researchers, and we answered it to our own satisfaction. We concluded that it is not the family background that determines pupil performance. The school response to family background determines pupil performance.

The controversial question is, What effect is most powerful in the analysis of achievement? Is the teacher effect most powerful, the familial effect most powerful, the school effect most powerful, or the district effect most powerful? We have concluded, pretty firmly, that the most powerful force at work in the issue of achievement is the school effect. That is, the school effect is much more powerful than the individual teacher effect. This statement is not meant in any way to dismiss teachers or to denigrate the critical character of their role in skills acquisition. It is merely to say—and I suspect your own experiences have long since demonstrated this—that poor schools are sufficiently powerful to depress otherwise creative, energetic, and productive instructional personnel. Conversely, instructionally effective schools are sufficiently powerful to raise otherwise mediocre people to levels of instructional effectiveness they might not ordinarily have thought they could aspire to.

School improvement project

New York City has more than 1,300 public schools. It was fairly clear that I was not going to be able to do what I wanted if I had to intervene in each one of those schools one at a time. I have enough difficulties just visiting them, let alone mounting a program in-

tended to intervene directly in them. I designed a School Improvement Project.

Through this project I entered the New York City schools with a program of intervention predicated exclusively on the school characteristics I referred to a few moments ago. I brought together a group of men and women as school liaison people. They have been trained in the import of these school characteristics and assigned to the schools participating in the School Improvement Project. Their job is to walk the administrative and instructional personnel of the school through an evaluation of the school's relative strength and weakness with respect to each of the characteristics to which I referred. The outcome of that examination we call a Needs Assessment Document. The document is prepared primarily by the liaison person, but in fairly close collaboration with a representative group of people convened in each participating school.

Each document talks with some specificity about the relative strength and weakness of the instructional leadership in the school, the relative strength and weakness of the instructional emphasis of the school, the relative strength and weakness of the climate of the school, and so on through all the characteristics. I then use these documents as a basis for making decisions about what kind of technical assistance would bring the school in line. Bear in mind that the premise from which all this proceeds is that any school that has obtained the five characteristics all at once would immediately begin to show very substantial improvement in skills acquisition for precisely that portion of the pupil population that ordinarily profits least from the way we approach teaching and learning in city schools. For example, if the Needs Assessment says the principal is found wanting in some aspect of instructional leadership, then I ask myself, "What can I do that would improve that principal's skills in the exercise of instructional leadership?" One of our very firm conclusions was that the principal of the school has to be the person the instructional personnel look to for instructional leadership in the system. If they do not, the implications for the school are considerably negative. We know that one of the measures of instructional leadership is that the principal has to visit the classes, systematically observe, and systematically respond to the observations. Therefore, if we discovered that the principal just never did that, I would assign a person to work with the principal to teach what he or she might need to know to be a sophisticated and consistent evaluator of teach-

er performance in the classroom. I might assign a retired principal with a 20-year record of incontestable success in his methodology of visiting classes, sorting out what he sees, and responding to it. Or if the Needs Assessment says that the teachers are insecure about their use of achievement data, I might assign to the school a professor of measurement and say that I want the teachers to participate in seminars on reading assessment data or evaluating achievement outcomes. Or I might assign a curriculum person because I want teachers trained better in how to use achievement data as a basis for program design, and so on.

This intervention does not alter per-pupil expenditure, does not add in any permanent way to the resources with which the school works, does not reduce class size, and does not add to the repertoire of services the school has to offer. It merely sets out to help the school people see ways to make better use of the resources already there.

A part of this intervention, though, is trying to make the central administration more receptive to the implications of our conclusions about school effects. Very few people in central administration in city schools in the United States give creditable instructional assistance even when instructional personnel request it. Therefore, one of the prerequisites to progress is to make the central administration a repository of reliable, creditable, consistent technical assistance persons.

Prerequisites for promotion

I have designed in the New York schools a program, which will take effect in September, that says children may not be promoted from any one grade to the next grade unless they can demonstrate, on the basis of objective data, their mastery of a sufficient minimum of school skills to permit us to predict that if they move on to the next grade they will be successful. If data will not permit us to make that prediction, then we cannot move them. In New York City this will remain the primary responsibility of the 32 decentralized districts. In New York City we centrally control curriculum and budget, but 32 decentralized districts control the elementary and intermediate schools. Each district serves somewhat less than 30,000 children. Each district elects its own board, and the board hires its own super-

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intendent and the teachers are hired from a central list. We give them a central budget allocation.

In this promotion program, you are denied the discretion of promoting exclusively on the basis of teacher judgment. To promote you must have objective evidence of pupil mastery of the minimum skills of which we all hear so much. I have also said that in the fourth grade and seventh grade, no matter what the decentralized district does, the central administration will itself administer the citywide test in reading, writing, and math and interpret the results itself. This in a sense verifies whether or not the decentralized districts' criteria for promotion are in conformity with what is implied by the statement that no child is to move unless and until that child can demonstrate sufficient mastery of the bodies of knowledge and sets of skills that in the third grade are prerequisite for predictable success in the fourth grade.

Many of you may be thinking that there is no justification for non-promotion if all you can offer children is a repeat of what they just did. I understand that. One of the characteristics of the program is the understanding that children, particularly in the fourth and seventh grades, who do not get promoted will have the opportunity to participate in a program designed to correct the academic difficulties that constitute the objective explanation for why they did not get promoted.

Central administration - substantive resource

I have made remarks about the program to illustrate the sorts of things that ought to be done in central administration to reinforce what is essentially a school-based design for improvement. My goal is that eventually all the schools in New York City will have their own school improvement programs and not have to participate in a project for that to be true. To do that, central administration has to institutionalize its capacity to be a creditable, procedural, and substantive resource. We walk a school through an evaluation of its relative strength and weakness with respect to the characteristics I have mentioned and then make the important decision about what repertoire of technical resources need to be assigned in response to such deficiency as may have been found. I will also use these experiences to evaluate what kinds of men and women representing what

kinds of skills are needed to become a permanent part of the curriculum division. This will eventually permit any one of the 1,300 schools to decide for itself who it wants in its own school improvement project. Then a school can turn to the central administration and say that it has determined that these and these are the kinds of technical assistance this particular school needs to make better use of the resources it already has.

I am happy to report that, thus far, I have substantial endorsement for this approach in the city. I have editorial endorsement from major newspapers including the *Times*; major universities have publicly proclaimed their endorsements; foundations have sent along letters of endorsement. The American Federation of Teachers has said that it will publicly cooperate in this design and approach to intervention. I do not want to imply that the relationship between us is one of sweetness and light, as that is not the case. But at least, so far, we might have what Franklin Roosevelt called "armed neutrality." So we will see whether or not we end up shooting at each other.

I am cautiously optimistic. I do have very substantial confidence in our conclusions. I am not as confident in the design of the intervention, but I think that it makes some sense.

Incidentally, the Milwaukee Public Schools are also doing a school improvement project based on my research. They have chosen to approach it in a somewhat different way. Those of you who have colleagues and friends in Milwaukee may want to pay some attention to the progress of their intervention since it is based on precisely the same conclusions I have been describing.

Education the instrument of equity?

In conclusion, this reference to schools that teach all their children what their parents want them to know, when they send them to school, is not theoretical and does not derive from moral persuasion. It is a discovery as contrasted to an invention. My conclusion in that regard derives from the fact that effective schools do in fact exist and they exist right now. The second conclusion I draw is that the existence of these schools raises the question, Why aren't they all like that? My own answer to the question is that we happen to live in a society that values some of its people much more than it values others. Educators, like all other social servants, serve those they

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think they must and, when they think they need not, they do not. Unfortunately most of the children who do not get these services, in general, and education in particular, happen to be members of politically impotent groups—children who are either poor, of color, or both. But schools do exist that can solve the problem. The existence of those schools means that it is realistic to suppose that all of them could be like that. And, finally, I would say that whether or not our social order ever makes education the instrument of equity of which it is capable probably depends on how you feel about the fact that we have not done that so far.

INNER-CITY SCHOOLS CAN MAKE A DIFFERENCE

Richard J. Murnane
Institution for Social and Policy Studies
Yale University

The primary purpose of this paper is to present evidence of significant differences in the effectiveness of schools serving low-income children. These differences are large and demonstrate that even for poor children living in big cities and starting school without many of the advantages of their more affluent peers, school experiences do make a difference.

A secondary goal of the paper is to indicate one reason why more learning takes place in some classrooms and schools than in others. This reason concerns differences in the effectiveness of teachers due to teaching experience and "vintage effects." The second part of the paper explains these phenomena, demonstrates that they are related to teaching performance, and suggests implications for policy.

Some schools and classrooms are particularly effective

To talk to professional educators about evidence that schools make a difference is a little like bringing ice to the Eskimos. Surely, one of the motivations that led each of you to choose education as a career is the belief that the quality of formal education children receive has a significant impact on their lives and that dedicated work by talented educators can make a difference.

It is important to remember, however, that this view has come under significant challenge in recent years. Central to this challenge is that we have not found widely applicable answers to the question of how to provide all American children with the cognitive and affective skills needed to function effectively in our society. Looking back from 1980 with the perspective of 15 years of extensive experimentation and efforts to find universally applicable solutions to the

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education problem, it seems surprising that we ever thought the problem would be easy to solve or that there could be universal solutions. However, one need only read the publicity that surrounded the passage of the Elementary and Secondary Education Act of 1965 to understand the optimism present at that time. Many observers thought that the funds provided by Title I of that act would permit schools to develop powerful programs that would effectively compensate for the disadvantages children from poor families often bring with them to school. Research strategies were designed to identify the most successful of these programs and intensive efforts were made to export these successful programs to other communities.

Fifteen years later we know that there are indeed successful school programs. However, we also know that it is extremely difficult to replicate these successes in other communities, in different schools within the same community, or even in successive years in the school in which the success was originally identified.

Given these frustrations, some observers have concluded that differences in the skill levels of children are due solely to differences in family backgrounds and other forces external to the school. They reason that schools seem successful at particular points in time only because they serve children who bring to school with them high levels of motivation and skills.

This view is challenged by the research I would now like to describe. This research shows clearly that there are large and important differences in the quality of education provided to children attending inner-city schools. This evidence provides clear support for the view that schools matter and that it is worthwhile to pursue the difficult task of making schools effective in providing children with the skills needed to lead productive lives.

The data base for the research described in this part of the paper consists of information on three samples of Black children who were students in the second or third grade in one of 15 inner-city elementary schools in New Haven, Connecticut, during the period 1970-1972. Each sample consisted of more than 400 children who spent the school year in one of 40 self-contained classrooms. The information available for each child included variables describing the child's background and test scores from two standardized tests of reading and mathematics. One test was administered at the beginning of the school year (or at the end of the previous school year) and the other at the end of the school year.

The strategy used was to investigate the following basic questions: If one wants to predict a child's achievement at the end of a school year and one already knows the child's skill level at the beginning of the school year and information about the child's family background, is it important to identify the school in which the child spent the school year? Is it also important to identify the classroom within the school? The alternative hypotheses are that approximately the same amount of learning took place in each of the 15 inner-city schools in the sample and in the 40 second- and third-grade classrooms within these schools. In this case, there might be differences in the average achievement levels of the children attending different schools, but these differences could be explained by the information on the children's family background and by the skill levels that the children brought with them to school at the beginning of the school year.

The results of the statistical analyses conducted to test these hypotheses provide clear evidence that there were significant differences in the amount of learning taking place in different schools and in different classrooms, even after taking into account the skill levels and family background that each child brought to school. These differences were statistically significant for all three samples and for skill levels in reading and mathematics. In other words, children with similar backgrounds *and* similar skill levels at the beginning of the school year were *not* similar in how much they learned during the school year: their learning depended significantly on *which* school they attended and, within any school, on which classroom they were assigned to. Something about those schools and classrooms had significant effects on the children.¹

The next question to consider is, How large were the differences in the progress of students in different schools and in different classrooms? To address this question, it is useful to examine one of the three samples in detail. (The pattern of results for all three samples is essentially the same.) The average reading level of the children in the second-grade sample, expressed in grade equivalents, was 1.7 at the beginning of the second grade. In other words, the average skill level was equal to that achieved by the average child nationally at the end of the seventh month of the first grade. On average, the children in the second grade sample made seven months of progress

¹See Murnane (1975) for a complete technical description of this research.

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(again, measured in grade equivalents) between the months of October and May of the year they were in the second grade. There were, however, important differences in the average progress of children attending different schools. The largest average gain among the 15 schools was 12 months, while the lowest gain was only 6 months. It is important to remember that these differences existed *after taking into account* differences in the skill levels that children brought to school. Thus, there is significant evidence that, even among a sample of urban schools serving primarily poor children, there were important differences in their effectiveness in teaching children to read.

This research also revealed large differences in the amount of learning taking place among second-grade classrooms in the same school. For example, in one school with three second-grade classrooms, the average progress made by the children in one classroom was an 11-month gain, in a second classroom the average gain was 9 months, and in a third classroom the average gain was 4 months.² This was the widest spread observed among the 15 schools. However, the differences in the effectiveness of classrooms within many of the schools was sufficient to provide clear statistical evidence that it does not only matter which school a child attended, it also matters which classroom within the school the child spent the school year in.

This evidence is important because it demonstrates that research designed to explain why some children learn more in school than other children do must focus not only on school variables, such as the quality of leadership provided by the principal. One must also explore why different amounts of learning take place in different classrooms within the same school. My research on this issue has focused on differences in the effectiveness of classroom teachers. I now turn to this topic.

Teachers matter

There is a great deal of quantitative evidence that teachers make a difference. Virtually every study of school effectiveness finds that

²The principal of each school was interviewed to learn, among other things, whether the large differences in learning taking place in different classrooms could be explained by grouping patterns. The 15 principals stated that this was not the case in their schools. Exceptional children were not put in a single classroom in these schools.

some attributes of teachers are significantly related to student achievement. This section of the paper discusses two factors I have found to be related to teaching effectiveness, namely teacher experience, and what I call "vintage effects."

Teacher experience

The hypothesis that teachers become more effective as they gain experience rests on the view that teaching is a complex process requiring a varied set of skills, many of which can only be learned on the job. In other words, teachers learn to teach by teaching, and, as a result, they become more effective as they acquire experience.

I found strong support for this hypothesis in my research in New Haven. In all three samples, teachers with three to five years of experience were more effective than teachers with less experience. For example, students in classes taught by teachers with three to five years of experience made two to three months more progress (measured in grade equivalents) in acquiring reading skills during the school year than students taught by first-year teachers. The differences in children's progress in acquiring mathematics skills were even larger.

The implications of these findings for policymaking depend to a great extent on the opportunities and constraints that individual school districts and administrators face. However, there are two general, if obvious, implications. The first is that most first-year teachers need a great deal of help and encouragement and that it is very important for them and their students that support be readily available in a nonthreatening form. The second implication is that great care should be taken to assure that the same children are not assigned to first-year teachers for several years in a row.

My research in New Haven did not find that teachers became more effective as they acquired additional experience after the initial three to five years of teaching. In fact, there is weak evidence that teachers with more experience were slightly less effective. This could be due to the much publicized phenomenon of teacher burn-out. Another partial explanation may be that very experienced teachers make contributions to school effectiveness not reflected in the achievement test score gains of their own students. For example, they may help beginning teachers by providing them with instructional materials and advice on how to deal with difficult children. A

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third explanation is that the apparent decline in the effectiveness of teachers after they acquire three to five years of experience is a research artifact produced by vintage effects.

Vintage effects

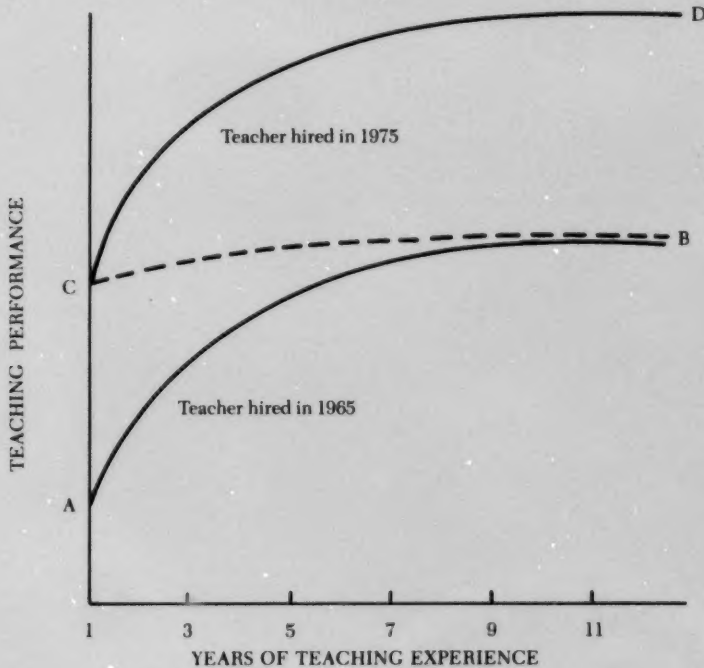
Vintage effects are defined as differences in the average abilities of teachers hired by school districts at different points in time. The most compelling explanation for the existence of vintage effects is that dramatic changes in labor market conditions for teachers over the last 25 years have affected the quality of new entrants to the teaching profession. In the late 1950's and early 1960's, a rapid increase in student enrollments created an acute shortage of teachers in the United States. Many school districts, particularly urban districts, found it difficult to find minimally qualified applicants to fill vacant positions. By 1970 this situation had changed significantly. Due to the combination of a decrease in the demand for teachers precipitated by declining enrollments and an increase in the supply of teachers (a delayed response to the earlier shortage), there has been a surplus of teachers in most subject areas during the 1970's. As a result, school districts have been able to be very selective in choosing among the large number of applicants for teaching positions. Assuming that district personnel officers are able to identify applicants with the greatest potential, the average quality of new teachers should be higher in periods of excess supply, such as the 1970's, than in periods of excess demand, such as the early 1960's.

Vintage effects are of interest for two reasons. First, the idea that labor market conditions for teachers influence the ability of school districts to find high quality teachers has implications for hiring policies in the future. These implications are discussed in the next section. The second reason for interest in vintage effects is that they influence the observed relationship between teaching experience and teaching performance. This influence is a result of the research strategy used to investigate the experience-performance relationship.

The most straightforward way to investigate the impact of teaching experience on teaching performance is to examine the effectiveness of individual teachers over time. To date this strategy has not been used. Instead, the role of experience has been investigated by estimating the relationship between experience and performance in a cross section of teachers. In other words, data on teachers and stu-

dents are collected at one point in time, and the effectiveness of teachers who have different levels of experience at that time is analyzed. The implicit assumption underlying this strategy is that, after controlling for the effects of observable variables such as background and training, all the teachers are of equal ability except for differences due to experience. However, there may also be differences in ability due to vintage effects that will create bias in the estimated relationship between teaching experience and teaching performance.

An example may help to clarify this argument. Assume that all teachers do become more effective as they gain experience, and the biggest performance gains come in the initial years of teaching. This is illustrated by curves AB and CD in the figure below, both of which show the improvement in the performance of representative teachers as the teachers gain experience.



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The effects of vintage are shown by the vertical distance between the two curves AB and CD. At any given level of experience the teacher hired in 1975 is more effective than the teacher hired in 1965. This difference reflects the fact that school districts could be more selective in choosing among applicants in 1975 than they could in 1965. When the relationship between teaching experience and teaching performance is estimated by comparing the effectiveness of teachers who have 1 and 11 years of experience at the end of 1975, it is the dashed line CB that is estimated. Thus, if vintage effects exist, it is possible to find no relationship between teaching experience and teaching performance in a cross section of teachers even if every teacher improves with experience.

The next step in my research was to examine just how important vintage effects were, both in determining teaching effectiveness and in influencing the experience-performance relationship. The basic research strategy was to estimate, in the context of a single statistical model, the effects on teaching performance of both vintage and experience. In terms of the figure on page 37, the goal was to estimate the size of the vertical distance AC, the vintage effect, and the changing slope of either AB or CD, the experience effect.

The variable used to indicate vintage effects was the change in total student enrollments in the district between the year in which a teacher first taught in the district and the previous year. The logic underlying the use of this variable was that, in years of rapidly growing student enrollments, this district and neighboring districts competing for teachers in the same labor market hired large numbers of teachers at a time in which the supply of teachers was relatively limited. As a result, they could not be selective in choosing among applicants. When enrollments were declining, personnel officers could be more selective and average teacher quality would rise.

This research was conducted using information on teachers and students from a large city in the Midwest. The information was very similar to that used in the New Haven research. The sample of students consisted of 325 Black children who were in the third or fourth grade in one of a number of inner-city schools.

This data base is particularly appropriate for the study of vintage effects because in the city that provided the data there have been large changes in public school enroliments over the last 30 years. During the 1940's, student enrollments were relatively stable at

approximately 20,000 students. Enrollments grew rapidly during the 1950's and more slowly during the 1960's, reaching a peak of 48,000 students in 1968. After 1968, enrollments decreased steadily, falling to 40,000 students in 1975, when the data were collected. As a result of these enrollment shifts, this city has experienced large changes in the number of teachers hired in different years and in the degree of selectivity that personnel officers could exercise in choosing among applicants. Consequently, there is a significant potential for vintage effects.

The results of the research indicate significant vintage effects. Teachers hired in periods of rapidly growing enrollments were less effective on average than teachers hired during periods of enrollment declines.

The vintage effects also influenced the research results concerning the relationship between teaching experience and teaching performance. When the effects of experience on performance were estimated without controlling for vintage effects, no significant relationship between teaching experience and teaching performance was found. However, when this relationship was reestimated, taking vintage effects into account, a significant positive relationship between teaching experience and teaching performance was found. The size of the estimated coefficient, translated into grade equivalents, implies that children taught by a teacher with five years of experience make three to four more months of progress in acquiring reading skills during a school year than do children taught by a first-year teacher.³

Vintage effects in the future

If the type of vintage effects described here continues to hold in the future, teachers hired in the next few years should be of high average quality. The reason is that enrollments will continue to fall over the next five years and personnel officers will be able to select the few new teachers needed from a large pool of applicants. It is important to keep in mind, however, that the indicator of vintage effects used in this analysis provides information only about the demand for teachers; it contains no information about the supply of teachers.

³See Murnane and Phillips (1981) for a complete technical description of this research.

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Recently, evidence has been presented (Weaver, 1978) indicating that the average quality of the students preparing to be teachers has fallen in recent years (as measured by SAT scores relative to the national mean). This decline is partly due to the response of college students to the labor market conditions for teachers and partly due to a lowering of standards by teacher training programs.

It is not clear to what extent the decline in the average quality of the applicant pool, if it is a significant drop, will affect the quality of the teachers who are actually hired. If teachers are chosen randomly from the applicant pool, the average quality of newly hired teachers will, of course, fall. However, if school districts fill their relatively few vacancies with the most able teachers in the large pool of applicants, the average quality need not fall and, in fact, may rise. This suggests that the process of selecting new teachers should be carried out with great care.

Teacher selection is especially important today because the turnover rate among teachers in most districts is so much lower than it was in the past. As a result, school districts have a high probability of experiencing for many years both the benefits of particularly able teachers and the costs of ineffective teachers. For these reasons, improving the process by which applicants for teaching positions are screened and new teachers chosen should have a high priority in the allocation of scarce school resources.

Conclusion

In conclusion, I would like to return to the basic themes developed in this paper. The first and most important theme is that school experiences do influence the learning of inner-city children. Some inner-city children learn much more in school than other children do, and this is due, at least in part, to differences in the quality of education provided in different schools and in different classrooms within the same school. The second theme is that the quality of the teaching staff is one important determinant of the effectiveness of school programs. Consequently, it is important for school districts to evaluate the effectiveness of their personnel policies in attracting and retaining talented, dedicated teachers.

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IMPACT OF "WHAT WORKS IN READING?"

Michael H. Kean
Executive Director
Office of Research and Evaluation
*School District of Philadelphia**

Educational policy decisions should not be developed without consideration of the controllability of the variables being studied. A certain number of variables will, by nature, be beyond the control or manipulation of any organization. Yet many factors that can be controlled are often ignored.

A number of major earlier studies concluded that the impact of educational factors was minimal and, in fact, noncontrollable factors, such as family background, provided the major impact upon pupil achievement.

The now famous Coleman Study (1966) showed, among other things, that the student's family background was the most critical factor in determining his or her achievement. Jensen's highly controversial work in the area of IQ (1969) ascribed a great part of a student's aptitude and achievement to genetic factors rather than to the impact of educational intervention. In the early 1970's, Christopher Jencks further muddled the waters with the publication of *Inequality*, in which he concluded that neither the quality of schooling nor family background had much effect on students' future earnings, but, rather, luck was the most critical variable.

If one were to accept as gospel the findings of any of these three studies, one might likely conclude that educational policy formulation was a waste of time and that very little of what educators do, in an attempt to serve children, is likely to be effective.

Fortunately, however, many of us do *not* accept such a conclusion. Many of us believe that schools can and do make a difference, and precisely that belief served as a basis for the study I've been asked to share with you this afternoon.

The results of "What Works in Reading?"—a joint School District/Federal Reserve Bank empirical study in Philadelphia—were released in June 1979. Though controversial, the study has sparked an

*Now Director, Midwest Regional Office, Educational Testing Service.

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enormous amount of national interest and attention. The purpose of the study was to determine what makes a difference in teaching children to read. The years of experience of many thousands of teachers have testified that no one, simple, magical solution could be expected. Therefore, the task of this study was to try to identify the factors that contributed most strongly to achievement growth in reading and, in particular, to appraise the relative merits of approaches in reading.

The study had its genesis in two independent efforts by the School District of Philadelphia and the Federal Reserve Bank of Philadelphia.

As part of its continuing activities, the Office of Research and Evaluation of the School District of Philadelphia had conducted several studies of reading practices in recent years. One study—that of a single school that had demonstrated remarkable progress in reading during the course of one school year—was a post hoc attempt to describe the reading effort in as much detail as possible. It was largely "a fishing expedition." The results were interesting, but they served primarily as an impetus for a more intensive look at successful reading practices.

A more extensive study, involving 15 "successful" schools, was conducted in 1974. This study involved interviews of administrators and students as well as the examination of a number of school characteristics. Though over 80 variables measuring these characteristics were examined, the results were again inconclusive. Variables could not be identified that differentiated the schools studied from the other "less successful" schools in the system.

At the same time, the Federal Reserve Bank of Philadelphia was conducting a study of its own. In 1975 it published a study of achievement growth in the Philadelphia schools that utilized econometric techniques. This effort was widely acclaimed, especially by economists, but was criticized within the School District of Philadelphia. Objections were raised on both a technical and an emotional level. After a period of heated interaction, it became evident that the School District had no intention of utilizing this study for policy development or decision-making purposes.

In late October of 1975, the Superintendent of Schools of Philadelphia and the President of the Federal Reserve Bank of Philadelphia were invited by the Deputy Mayor of Philadelphia to meet with him to discuss the recently released Federal Reserve study. Both

brought members of their staffs to the meeting. The general focus of the discussion that morning was what, if any, follow-up to the findings and recommendations of the Federal Reserve Bank report was being planned. It was suggested that, in spite of School District comments critical of certain of the technical procedures of the report, there was a considerable amount of promise in the methodology and implications for longer-range policy decisions.

An agreement was reached whereby the Office of Research and Evaluation of the School District and the Research Department of the Federal Reserve Bank would meet to discuss the development of a follow-up study utilizing, as a base, the methodology employed by the Federal Reserve Bank, but integrating within it the concerns and learning priorities of the School District. Shortly after this meeting at City Hall, the Executive Director of the Office of Research and Evaluation and the Research Officer and Economist of the Federal Reserve Bank met to discuss the possibilities for a new study.

Key staff members from both the Federal Reserve Bank and the School District met in a series of half-day work sessions to plan the study. At the outset, the tone was cordial but guarded, and the meetings were negotiating sessions as much as planning meetings.

Reasons for earlier disagreement quickly became evident. The nature of various school variables had to be clarified. In addition, differences in statistical terminology were a barrier. At one point, a staff member familiar with both multiple regression analysis and analysis of variance was brought in to "translate" the terms and concepts used.

As the work sessions progressed, they brought to participants a heightened awareness of each other's world. Eventually, a genuine mutual respect developed. Given what had occurred in the past, this understanding and regard were *sine qua non* for the implementation of this study.

Overview of the study

Some schools are more successful than others in reading achievement growth from one year to the next and in annual level of achievement. What are the reasons that one school has a higher score than another? Why do some students perform better than others? By collecting measures of possible reasons, one might be able to discrimi-

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nate among reasons by virtue of their degree of association with the measure of success. In short, it is possible to compute the multiple regression between the achievement measure (the dependent variable) and the estimated measures of the hypothesized reasons (the predictors or independent variables).

This study was a search for variables associated with changes in achievement growth and an attempt to describe the associations in terms of socioeconomic conditions, educational inputs, and peer group characteristics. The cliché "correlation does not mean causation" is an appropriate caveat. However, in the world of educational policy, decisions must be made on the basis of the best available information. Therefore, policy implications were the end product of this study.

Schools were picked by rank-ordering all elementary schools by their overall average reading scores (1975, grades 1-4) and their overall gain scores (1974-1975, grades 1-4) in reading. Ten schools at the top and 10 at the bottom of both lists were selected. Five schools in the middle of both lists completed the sample of 25 schools.

All the fourth-grade pupils in the schools selected were included in the study. Fourth grade was chosen because it is the grade in which a large drop in test scores is typically observed, it is the highest grade found in all elementary schools, and the ability to read at that grade is importantly related to a student's subsequent progress.

Information was gathered by teams made up of the staff of the Office of Research and Evaluation and the Division of English/Reading Language Arts Education. These teams visited the schools involved and interviewed the principal, the teachers, the reading teachers, and the reading aides. A total of 25 principals, 25 reading teachers, 94 classroom teachers, and 68 reading aides were interviewed. In addition, team members gathered large amounts of information from each pupil's records.

All this information was checked and double-checked for accuracy and then placed on a computer file that contained 162 variables about each of 1,828 pupils. Later, various combinations of these separate items of information increased the total number of variables about each pupil to 245.

For each pupil, five kinds of variables were gathered:

1. Variables about the principal of the pupil's school
2. Variables about the reading teacher in the pupil's school

3. Variables about the pupil's classroom teacher
4. Variables about the pupil's school
5. Variables about the individual pupil

Once all the information about each pupil was placed on computer tape, a random sample of 25 percent of the pupils was removed from the file and put aside. This was kept as a cross-validation sample, which allowed the results to be double-checked.

Over 500 multiple regression equations were run on the large (75 percent) file. This involved trying out many different combinations of facts (equations) about the pupils to determine which combination was most closely related to gains in reading scores. After the equation that seemed to be most closely related to gain in reading scores was found, it was used on the cross-validation (25 percent) file. Findings that were the same in both cases could be reported with some confidence; those that were not could be presented for discussion and further study.

Key findings

The authors predicated the rationale of the study in part upon the notion that adding to the existing body of knowledge concerning successful practices in reading was only partially useful. The wealth of research in reading has resulted in both old and new ideas being layered upon one another. Very seldom has attention been paid to removing the irrelevant or unproductive. Since such "excess baggage" is often both detrimental to instruction and costly in terms of resources, "What Works in Reading?" attempted to identify variables that both did and *did not* make a difference in reading achievement.

Variables that make a difference. Based on the procedures described above, the following were found:

1. Some things about the *pupil* seemed to make a difference:
 - The better the pupil's attendance, the more the reading score increased.
 - The fewer unexcused absences, the more the reading score increased.

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- Pupils who had attended kindergarten seemed to gain more than those who did not.
2. Some things about the *principal* seemed to make a difference:
 - Where principals had experience in the field of reading, the pupils achieved better.
 - The more the principal observed in the classroom, the better the pupils achieved.
 3. Some things about the *school* seemed to make a difference:
 - When schools had more professional supportive staff per pupil, the pupils achieved better.
 - Pupils clearly achieved worst in K-6 schools; K-7 schools were best; K-8 and K-5 schools were in between.
 4. Some things about the *classroom teacher* seemed to make a difference:
 - Where teachers had more pay periods without absences, the pupils achieved better.
 - Where teachers had more than one-year's experience teaching fourth grade, the pupils achieved better.
 5. Some things about *reading instruction* seemed to make a difference:
 - Pupils being taught with the basal linguistic approach achieved distinctly better than pupils being taught with other reading approaches.
 - The more minutes a week of sustained silent reading, the better the pupils achieved.
 - The fewer reading aides per week, the better the pupils achieved.
 - Where teachers felt that, if given a choice, they would pick the same reading program again, the pupils achieved better.
 - Pupils in larger classes (up to 35) gained more than those in smaller classes (as few as 24).
 - Pupils in classes taught in a small-group/whole-class combination achieved better than pupils who were taught individually only, in small groups only, or as a whole class only.

Variables that make no difference. Though a number of things were found to make a difference, most did not. Certain of the variables that did not make a difference were emphasized because, in the past, they had been considered important. It was found that the following things did *not* affect pupil achievement:

1. The number of times a pupil moved since starting school
2. Being bussed to relieve overcrowding
3. The amount of administrative experience the principal had
4. Whether or not the principal had a doctorate
5. The number of years the principal had been in the school
6. Whether the pupil came from a lower or higher income neighborhood
7. Whether the school had more or fewer pupils from lower income families
8. The race of the teacher
9. The number of years of experience of the teacher
10. The number of graduate courses in reading and language arts taken by the teacher
11. The number of minutes a day of reading instruction
12. The time of day reading was taught
13. The professional preparation and experience of the school reading teacher

Policy implications. Based on the findings of this study, it was recommended that the following action be considered:

1. Establish an outreach program to assure that as many children as possible have a kindergarten experience.
2. Explore expansion of the use of the basal linguistic reading approach.
3. Consider the establishment of a special task force to explore programs for, and develop intervention studies of, the lowest achieving pupils.
4. Develop or modify programs or policies to minimize pupil and teacher absenteeism.

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5. Develop or modify programs or policies to increase the amount of teacher time that is spent in direct instructional contact with pupils.
6. Develop or modify programs or policies to increase the amount of time principals spend observing in a classroom.
7. Explore the development of programs to increase the amount of knowledge and experience in reading that potential principals have, prior to their appointments.
8. Explore reasons why the K-7 organization seemed to be associated with the greatest amount of pupil gain and K-6 the least.
9. Consider mandating a policy of daily sustained silent reading in all schools.
10. Initiate discussions with appropriate government officials directed toward the modification of current regulations to permit allocation of federal resources on a pupil-specific basis.

The study's impact

The very day the study was presented at a public Board of Education meeting in June 1979, it began making news. Though purely of local interest at first, as a result of a wire service story, it was featured in the *Los Angeles Times* the following week. By midsummer, over 1,000 inquiries had been received.

Local television and radio stations broadcast stories on the results of the study, with both of the all-news radio stations producing feature reports and four others taping brief interviews with the major authors. The three major daily metropolitan newspapers published extensive stories, each focusing on a somewhat different aspect, but all covering the major findings.

The *Inquirer* emphasized the "common pedagogical wisdom" of the study's results in its lead:

What seemed obvious in the days of the little red school house has been confirmed by results of a major reading study released yesterday by the Federal Reserve Bank and the Philadelphia School District. Basically, the study shows that children learn to read more easily in relation to the quality of time they spend with their teachers.

The *Bulletin* also focused upon the contact between students, teachers, and principals:

The overriding principle of the study—a deceptively simple one, according to its authors—is that the most effective reading teachers are those who maintain the closest and most continuous contact with their pupils and school principal.

However, it picked up on the term “short links” utilized in the Board presentation:

“You need direct, short links—that’s the payoff,” said Anita A. Summers, a former Federal Reserve Bank economist and now a professor at the University of Pennsylvania’s Wharton School. “When you introduce extra links, you’re reducing effectiveness with diversionary tactics.”

Following the initial local media coverage and the wire story filed by the Associated Press, a number of major educational periodicals reported the study’s results. *Education USA*, the most widely circulated weekly education newsletter, devoted three of its eight pages to it. The lead article, “New Study Finds What Worked in Reading,” focused upon the more potentially controversial findings and emphasized both what made *no* difference and what worked. A second article of the “analysis” variety was also included.

The *Education USA* articles created an enormous demand for the report. By the end of the summer, over 3,000 inquiries had been received. The “Newsfront” section of the first *Phi Delta Kappan* of the new school year (September 1979) featured the study in an article entitled, “What’s the Best Way to Teach Reading? Here’s a Surprise.” As a result, 2,000 additional requests were received within the next eight weeks.

Perhaps the major impact of the study, however, took the form of what came to be erroneously viewed by many as a companion document to the report entitled, “A Blueprint for Academic Achievement.” Two months prior to its release, the Superintendent anticipated the “Blueprint” in comments reported by *Education USA*:

Philadelphia Schools Supt. Michael P. Marcuse praised the researchers for their “significant findings,” which, he said, would result in “specific recommendations” to the Board of Education for major changes in reading instruction. . . .

A blueprint for academic achievement

The "Blueprint," as the document came to be known, took the form of a 22-page draft document transmitted by the Superintendent of Schools to his Executive Cabinet for review, discussion, and refinement. The Superintendent's charge to his Cabinet was to "forge a blueprint for action" that could be presented to the Board of Education by December 1979.

The "Blueprint" was developed largely as a result of a charge to the School District's Office of Curriculum and Instruction to study "the problems of raising achievement, particularly in schools with greatest need." Unbeknown to the authors of "What Works in Reading?", the report of the Curriculum Office was integrated with the research study by other members of the Superintendent's staff. The result was an unexpected though pleasant surprise to the researchers, for the "Blueprint" had, indeed, drawn heavily upon their work. In his introductory memorandum, the Superintendent stated:

... I have read in-depth the research report, "What Works in Reading?". I believe it can prove to be one of the most significant reports on reading achievement in the recent history of public education, and I have included several of its recommendations in this document.

In actuality, 10 of the "Blueprint's" 36 specific recommended actions flowed directly from "What Works in Reading?", with an equal number at least tangentially related. The text of the "Blueprint" often made direct mention of the study. For example, the section of the "Blueprint" dealing with the importance of the principal's leadership in the school states:

Nowhere was this proven more graphically than in the research report, "What Works in Reading?", which reported conclusive, statistical evidence that significantly more reading achievement took place in schools where the principal took a direct, active part in putting together the reading program and where the principal spent a good portion of his or her time in the classroom monitoring and motivating reading instruction.

In the section devoted to systemwide standards in curricular areas, the "Blueprint" refers to:

... one of the most powerful findings of the recent research, "What Works in Reading?", was the superiority of the basal linguistic approach to reading instruction. This method produced far more

achievement growth than did any other form of reading instruction in the fourth grade in the Philadelphia public schools.

And in discussing the need for direct instruction:

"What Works in Reading?" also found that the kind of classroom organization that produced significantly greater achievement growth than any other was an organization where the teacher taught the whole group part of the time, then broke the class into clusters for small group instruction.

Still another major finding was the benefit of silent reading which, according to the research, produced significant reading achievement growth.

The specific actions recommended by the "Blueprint for Academic Achievement" that can be directly traced to the findings and policy implications of "What Works in Reading?" include the following:

1. An executive institute for principals will be established focusing exclusively on leadership development in the instruction of basic skills.
2. Principals will reserve time during the instructional day to visit classrooms and other school areas where student activity is taking place.
3. Wherever possible, central office and district office meetings involving principals are to be scheduled when students are not in attendance at school.
4. The Office of Curriculum and Instruction will report, in detail, to the Superintendent of Schools its evaluation of the basal linguistic approach to reading instruction, together with its recommendation why this approach should, or should not, become the School District of Philadelphia's basic approach to the teaching of reading.
5. Several teams of supervisors will be established with expertise in improving basic skills instruction using an interdisciplinary approach. Teams will establish consistent continuing relationships with low-achieving schools and initiate a detailed plan for staff development emphasizing basic skills instruction in all curricular areas.
6. Principals will use local and central office resources to continually emphasize the importance of direct instruction. This em-

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phasis will be implemented by the principal's frequent visits to observe classroom activities.

7. Aides will be used less in instructional roles and more in noninstructional areas like roll taking and other classroom management responsibilities.
8. The Office of Curriculum and Instruction will evaluate the whole-group/small-group classroom instruction process and why it should, or should not, become a standard form of reading instruction in our elementary schools.
9. The Office of Curriculum and Instruction will develop instructional processes in the basic skills, particularly in reading, utilizing significantly more silent reading than is now the custom.
10. A Task Force on Absenteeism will report to the Superintendent of Schools its recommendations for significantly decreasing teacher absenteeism.

Conclusions

"What Works in Reading?" was not just another piece of research. Unlike many studies that are politely accepted and then shelved to gather dust, this study has already had an impact. The extent of that impact and the ultimate level of utilization remain to be seen. The fact is, however, that "What Works in Reading?" has succeeded as a catalyst for change where other such efforts have failed.

The question remains, What next? I would suggest that the future looks bright. I base this statement not upon blind optimism, but upon three specific reasons:

1. The implementation of the "Blueprint for Academic Achievement," including specific recommendations that flowed from the "What Works in Reading?" study, will be monitored and its impact evaluated. This is critically important, for too often recommendations are made and never followed up on.

The "Blueprint for Academic Achievement" actually served to institutionalize the type of study that created much of the impetus for its initial development. That document's final section deals with evaluation as a tool for achievement growth and emphasizes that:

... it will be important for the Office of Research and Evaluation to conduct follow-up studies, which examine the effectiveness of various changes made to improve school achievement. These studies should look at specific recommendations and compare various overall strategies implemented in schools. This suggests that proposed changes should be implemented in a systematic way so that the effectiveness of different strategies can be measured and compared.

An introductory plan has been developed for the evaluation of the "Blueprint." The plan takes each of the objectives, and the specific actions associated with each objective, and prescribes an evaluation design that will provide an indication of the degree to which each objective (and the associated actions) has been realized. The designs have been developed in considerable detail and provide specific recommendations concerning documentation techniques and methods of data collection, responsibilities, services, products, clients, and, of course, a time frame.

2. A group has been convened to continue dealing with the potential impact of the "What Works in Reading?" study. Included in this group are members of the original committee assigned to consider the study's recommendations. Additional members have been added, however, to more heavily weight the group in the direction of school people. Principals and teachers now play a more vital role than ever.

The focus of the group has been to evolve and recommend school pilot projects and to elicit follow-up studies. In the area of school pilot projects, the group has discussed the feasibility of selecting a smaller, more manageable set of action alternatives for implementation by a limited number of participating schools.

Initial pilot sites, all elementary schools, are being considered for what is being conceptualized as an 18-month project. All schools throughout the system will be invited to participate, and those wishing to do so will be asked to develop a simple one-page proposal indicating the particular areas of investigation of interest to them. A hybrid version of the Far West Lab's interactive research and development model is what the group has in mind. The potential sites are being told at the outset that the likelihood of additional resources being made available is nil, and that they should focus on cost-free variables. The schools will be selected by the committee, and each will receive a variety of technical

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assistance services including planning (assisting in the development of the pilot project's objectives), monitoring (the provision of feedback), evaluating objectives, and reviewing outcomes (the implementation, alternatives, and levels of achievement). The Office of Research and Evaluation will take the responsibility for the development of an evaluation design (including process and output) as well as the implementation of that evaluation. It will be up to the individual school principals and their staffs to stipulate the specific objectives of the pilot projects. The committee has also discussed the feasibility of participating in a number of follow-up studies in cooperation with universities, foundations, and government agencies. Among the topics of highest interest for such follow-up studies are reading aides, principals' behavior, characteristics of the basal linguistic approach, role of the school reading teacher, and within-classroom instructional techniques (grouping).

3. Both the City and the School District are faced with severe fiscal constraints. It may sound paradoxical to consider such a statement positive. In terms of the implementation and ultimate utilization of the "What Works in Reading?" study, however, a fiscal crisis may well establish precisely the type of environment necessary for such recommendations to be taken seriously. The time has come to deal very directly with "the politics of less," and the "What Works in Reading?" study may well provide the wherewithal to do so. Remember that the study provided an indication of both what did work and what did not. In doing so, its authors stated very directly that they were not making resource-intensive recommendations. In fact, the majority of the recommendations could be implemented at little or no cost, and those with a price tag attached might well be funded with the savings accrued by doing away with practices that have failed to demonstrate success. The study's recommendations were designed in advance to be palatable to the public school system.

In the final analysis, however, institutional acceptance is not entirely sufficient. Institutional demand for decision information is perhaps the single most vital factor in the translation of research and evaluation into educational policy.

Second Day Sessions

FIGHTING MYTHS, FACING PROBLEMS, AND FRAMING A NEW REALITY

William M. Boyd, II
President
A Better Chance, Inc.

Public elementary and secondary education is a major industry in the U.S. and its importance extends beyond its size. It is appalling, therefore, even to think about it as an area of steadily declining productivity. We can and must have basic public education that is effective in preparing all students with skills necessary for life and work and in preparing many of them for higher education. To achieve that goal, we must fight some increasingly persuasive myths, face and solve some real problems, and frame a new reality.

The major myths about public education can be summarized simply. They hold that the current crop of students can't and/or won't learn. These myths are persuasive to so many Americans because they appeal to the underlying racism that plagues every sector of the society. Since the "Johnny" who can't read or write is increasingly likely to be Black or Brown, it is easy to accept that the process of educating him is an uphill struggle or an impossible chore. When you add that Johnny's parents often are poor, even fewer people see potential for success.

Seeing the potential

ABC, Inc. has been seeing that potential and helping to develop it for 16 years. We have found non-White children with outstanding ability whose parents were sharecroppers and garbage collectors as well as doctors and lawyers. The record of our 6,000 students alone should be sufficient proof that Johnny can learn, and wants to, if given an opportunity. Our students have come from the public schools of major cities and tiny hamlets to go on with our help and succeed at the finest secondary schools and colleges in the country.

They now are working at the kinds of jobs that traditionally have

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involved few, if any, minority people or people from lower socioeconomic strata. Positions held by ABC alumni include: manager of corporate relations with Citicorp, stockbroker with E. F. Hutton, investment analyst with Morgan Stanley and Co., fiscal economist with the Office of Management and Budget, Choate Rosemary Hall faculty member, surgeon, deputy bureau chief with *Newsweek*, and law associate at Wilkie, Farr & Gallagher.

Are we to believe that these students can be found in the places where ABC has worked but not in other similar places? If they are in New York City, Columbus, Ohio, and Henderson, North Carolina, why would they be absent in other towns or cities? We believe they are everywhere, and we are expanding our recruitment network all over the country to put our money where our mouth is. Some of you may be interested in helping us, and, if you are, I assure you that assistance is welcome. We have over 1,000 volunteers around the country, but more are needed.

Why should you be interested? If you want to see minority people advance into types and levels of employment where they now are absent, ABC is the largest single source of access to the kind of secondary school opportunity that leads to those kinds of jobs. If you hate to see human potential that is not fully developed, you want to see exceptionally bright youngsters placed in the most stimulating possible educational settings. If you want students in our junior high schools to have concrete examples of the value of academic achievement, you want some of them to be accepted by ABC and become role models for the others.

In schools where students have been competing for and winning ABC places for several years, it is very difficult for anyone to talk about there being no point to education. Some schools in depressed areas like the South Bronx of New York City have made ABC a vital part of their efforts to motivate students. In one school, the ABC winners are announced each year at graduation and are greeted by a standing ovation.

Perhaps you share my frustration that the first thing visible when you enter most public secondary schools is a bunch of athletic trophies rather than any indicators of academic achievement. If so, you will share my excitement at the initiative shown by one New York City school that has made room amid the trophy cases for an ABC display documenting the academic accomplishments of students from there who have gone on to ABC schools.

Reverse the trend of declining expectations

If you believe that minority students can learn and can benefit from learning, you must stand up for your belief. The problems with the learning environments in our public schools do not all lie with the children or their parents. Many of the problems with children and their parents are the result of the "reverse Pygmalion" approach I already have described. We must reverse the trend of declining expectations in our public schools. Minority and poor families, in particular, need to be reinforced in their beliefs that they can achieve in school and that achieving will make a difference in their lives.

Facing the problems that exist, such as oversized classes and limited ability to offer specialized or advanced courses, does not mean acceptance of low achievement. As I travel around the country to cities where ABC has chapters, I am intrigued by the diverse initiatives public schools have taken. One which may become more widespread is developing honors or examination high schools. These specialized schools allow students to share with others of similar ability and motivation a more stimulating and highly focused academic experience than is generally available. An article by Fred Hechinger in the *New York Times* of April 29, 1980, gives an example of the impact of this kind of school.

Carl Heye, 18, from the Bedford Stuyvesant section of Brooklyn, is now a senior at the Bronx High School of Science. He will attend Harvard College next year. . . . But he remembers starting on the downhill slide—cutting classes, toying with drugs, considering dropping out—only a few years ago, when he was in junior high school, and nobody paid attention to his talents. 'I probably wouldn't have finished,' if Bronx Science had not responded to him as gifted, he said.

To cite another example of public school initiative, I will quote another small section of that article.

The schools of Pinellas County, Florida, near Tampa, have established an internship program for gifted youngsters. Julie Seymour, 17, works as a law clerk to a federal judge. She said that, before that opportunity arose, she had been bored with classes and was 'dying to get out.'

Another initiative involves collaboration with local private schools. For example, the Houston Independent School District and the Kinkaid School conduct a summer program in science and engineering at Kinkaid for minority students from the public schools.

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You also may be interested in opportunities for individual public school students regardless of their geographic location. The most intriguing to me are the short-term institutes offered by Andover. They allow intensive concentration on one subject for six weeks or so. As I understand it, the physics institute has about 20 percent minority participants.

A pernicious myth

One of the most pernicious myths in education today is that admission to desirable programs like the Andover institutes or ABC member schools is based almost exclusively on standardized test scores. A variation on the theme says only those with genius level scores need apply. Both are false. Test scores certainly are considered, and I think they should be. They are, however, one of many factors and not always the most important. Students with relatively low test scores sometimes are admitted and those with very high test scores sometimes are rejected. It is criminal not to get this message across to students who demonstrate ability in many ways but who do poorly on standardized tests. They must not be allowed to lose enthusiasm for education because of false impressions that they cannot achieve their objectives.

As people in education, it is critical for us to learn about the significance of test scores and to pass along that information to minority and poor kids. Their successful performance often is not easy to predict, based on standardized test scores such as those on the SAT.

ETS recently released information about the differences in average SAT scores between Black and White students. By combining its data with some gathered by ABC, I can give you the following information I think you will find interesting.

1. Black average nationwide in 1977 = 684
2. Average of Black ABC graduates interviewed at a random sample of predominantly White colleges in 1977 = 898
3. White average nationwide in 1977 = 939
4. Average of ABC alumni entering Ivy League colleges in 1977 = 1,003

Research by ABC indicates that SAT scores of 1,200 or more are rare for Black students. It also shows that ABC alumni with scores between 1,000 and 1,100 go on to compete successfully at the nation's top colleges.

None of the aggregate data I have presented should obscure the fact that individual minority students can and do excel on standardized tests. ABC students, for example, have scored over 700 on both the quantitative and verbal sections of the SAT. This year one of our Black students at the Laurel School in Cleveland was the first ever at the school to score perfect 800's on two College Board achievement tests.

My data also should not obscure the fact that ETS acknowledges that, within certain ranges, differences in SAT scores between any two students do not indicate significant ability differentials. As I speak at ABC member schools, I find widespread awareness that scoring 25, or even 50 points, higher than another student does not necessarily mean that you are smarter or that you, but not the other student, will be admitted to a highly selective college. I wonder if we have made that same information widely available to students in our public schools so that they and their parents can avoid overreacting to test scores.

I also wonder whether we have provided students in public schools with other balanced information about college admission and strongly countered rumors such as the following:

1. Any minority student can get into any college.
2. Top colleges no longer are emphasizing minority recruitment.
3. Top colleges are beyond the economic reach of all but a few minority students.

Not one of those statements is likely to motivate a minority student to the pursuit of academic excellence. Equally importantly, not one of those statements is true. I already have indicated that Ivy League and other top colleges are more selective than other colleges for Blacks as well as Whites. All of them continue to make a variety of efforts to maintain and increase minority enrollment. Finally, all of them continue to provide generous financial-aid packages so that, in some cases, a student's costs at an expensive private college can be lower than those at a local public college.

Motivation to pursue academic excellence

Being told about other minority students who are high achievers can help to motivate a student. For example, a lot of attention should be given to the fact that the first Black woman has been chosen as a Rhodes scholar. In talking about her, it is worthwhile noting that she is an alumna of an ABC member institution, the Taft School in Connecticut. Her lead is one that can and should be followed by substantial numbers of minority students in the years to come.

But who will gather and disseminate information about achievements and opportunities to public school students? In most cases guidance counselors are so overloaded that they are lucky even to meet minimal expectations for advising students. Is this not an area where expanded use of volunteers could be very helpful? In particular, is it not possible for alumni achievers to become effective motivators and communicators? The experience of our feeder schools with this type of activity has been good. ABC students and alumni usually are eager to return to those schools and talk with students, and they usually are very well received.

All of us need to be reminded that kids off "the block" or the farm can achieve if they are given opportunity and encouragement. It is better to reach them as early as possible, but even tenth grade is not too late. ABC's typical student has not been exposed to top quality education before tenth grade. Many of them nevertheless have gone on to graduate *cum laude* and even to be honored as the outstanding graduating senior at schools like Exeter. ABC has been part of so-called miracles like the son of a Georgia sharecropper going to a top school, college, and law school and joining a distinguished Atlanta law firm.

Now we are trying to expand our reach to people who may not have had an opportunity to participate in our basic program. This summer ABC and the Wharton School of Business are collaborating on a summer program for high school juniors. Students selected will attend classes taught by Wharton faculty and seminars conducted by successful business people from entrepreneurs like Herman Russell of Atlanta to representatives of corporations like Phillip Morris and Scott Paper.

If the early indications of success persist, this type of program will be expanded to several top business schools, and over 100 students

per year will receive exposure to a range of opportunities and contacts that historically were unknown to them. Along with the knowledge will come realistically higher aspirations. When young minority people start aspiring to become corporate chief executives while they are in high school, the odds that we will live to see the first Black president of a FORTUNE 500 company will increase greatly.

Similarly, the odds in favor of a Black headmaster of a top independent school are increasing as more Blacks—many of them ABC alumni—enter careers in independent schools. To stimulate that movement, ABC is collaborating with Andover on two sets of workshops this summer designed to expose young Blacks (college juniors, seniors, and recent graduates) to the opportunities in this industry. This kind of effort is critical at a time when the typical high school and college student is hearing nothing but discouraging words about the prospects for careers in education. The youngsters who are the targets of this conference need to know that America still can be a land of opportunity for them even if they want a career in education.

There is increasing awareness of that basic fact among public school employees, school board members, and other elected officials. Without their support neither ABC nor some of the other exciting and motivating programs that exist could have developed. Many people have tried to convince me that these kinds of officials are too short-sighted to support efforts like ABC. Thank goodness our experience suggests a contrary conclusion. We have received the strong support of people like Mayor Tom Bradley of Los Angeles, the head of all the guidance counselors in Cleveland, school board members in cities as different as Boston and Houston, and literally hundreds of guidance counselors and teachers throughout the country.

A rising tide

To summarize my thoughts, I want to say that Jessie Jackson should not have a monopoly on pushing excellence. His program for public schools has been widely publicized and well received in a number of school districts. Whether it succeeds or fails, however, other efforts of the type I have been describing here today must be pursued. Jackson's focus is those students who are not now going to class regularly, doing their homework regularly, and honoring other basic norms of

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the school society. My emphasis is on students who are doing those things but who need desperately to see samples of the opportunities and success their efforts can produce. I know of no cure-all medicine for all the ills afflicting the public schools today. I'm not discouraged by this because I believe there are medicines for specific ailments that are being tried and are being proved effective. It is my firm belief that if we can raise the ceiling that limits the realistic aspirations of the top students in our public schools, all the students in those schools will benefit. To use an expression made popular by President Kennedy: "a rising tide lifts everybody's boat." I feel that tide rising and ABC plans to move with it. I hope that you will join us in seeking to increase the range of opportunities available to students in our public schools.

SCHOOLS CAN AND DO MAKE A DIFFERENCE: FINDINGS FROM THE ETS LONGITUDINAL STUDY OF YOUNG CHILDREN AND THEIR FIRST SCHOOL EXPERIENCES

Virginia C. Shipman
Educational Testing Service
Princeton, New Jersey

Introduction

The ETS Longitudinal Study of Young Children and Their First School Experiences focuses on two basic questions: What are the components of early education that facilitate or interfere with the cognitive, personal, and social development of disadvantaged children? What are the environmental and background variables that moderate these effects, and how do these moderators produce their influence?

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It is well established that children from low-socioeconomic-status families generally do not achieve academically as well as middle-class children. While a number of researchers have related this finding to various aspects of the differing environments of lower- and middle-class children, there is considerably less evidence describing environmental factors associated with performance differences solely within an economically disadvantaged population. Data about third-grade children from the longitudinal study indeed confirm the existence of wide ranges in cognitive aptitude and academic achievement among children of relatively homogeneous socioeconomic status. To further our understanding of development and contribute to planning environments to facilitate that development, it is critically important to discover the unique characteristics of children and their environments that do not fit the generalization that low social class equals low achievement.

This is an abridged version of Project Report 76-21, Notable Early Characteristics of High and Low Achieving Black Low-SES Children, authored by Virginia C. Shipman, which was prepared for the Office of Child Development, Department of Health, Education, and Welfare, under Grant H-8256.

Schools Can and Do Make a Difference

Analysis to date of the massive amount of data collected has been focused on examining relationships among various large sets of information from particular domains. In these investigations an attempt has been made to examine the consistency of findings across several status categories (that is, child's sex and race, family socioeconomic status, and geographical location). But one of the frustrations experienced in doing large-scale research is the impersonal aspect of such group analysis and the consequent decreased awareness one has of individual study participants. Every so often one hears a tester's or teacher's salient comment about a particular child; in some instances a local agency or newspaper article reports a critical family event. But to a large extent the individual developmental histories of study children remain unknown to the researcher who, to operate efficiently and in accord with relevant statistical models, must constantly reduce the data collected to a limited set of variables.

Given the multiple and interacting nature of influences upon any behavior and the error contained in any measurement technique used, the magnitude of correlation obtained between psychosocial variables and a young child's functioning is understandably moderate at best, accounting for only a small amount of the behavior examined. Moreover, we do not know the extent to which various aspects of the child's development are appropriately assessed by statistical models that assume a linear growth model. The present study was an attempt to generate hypotheses concerning those combinations of factors that enhance or interfere with children's early grade-school performance. Intensive case studies were prepared for those study children who, on a third-grade achievement test, were (a) significantly above or below the average performance for children of similar ethnic and income status in the basic school skills of reading and math or (b) significantly deviant from the level predicted by their performance on a test of preacademic skills at age 4.

It should be noted that such an approach is not seen as an alternative or substitute for previous analyses, but rather as a supplement to them. We recognize that the problems indicated above are not eliminated by this approach. However, an intensive study of extreme cases should serve to highlight significant factors and/or combinations and sequences of factors, that is, those environmental events or personal dispositions that covary with school performance. Thus, close examination of the preschool and primary grade programmatic

information gathered should help delineate critical factors in the child's early school experiences. Those factors or processes not identified previously in the larger sample can then serve as hypotheses to be tested in subsequent experimental studies. Thus, by multiple analytic strategies we hope to contribute to the further understanding of the complex interacting influences upon children's development so as to provide a basis for informed socioeducational intervention.

Sample

The sample for the current report is a subsample from the ETS Head Start longitudinal study. Sample selection procedures and initial sample characteristics for the longitudinal study are presented in Project Report 71-19 (Shipman, 1971). Briefly, in the fall of 1968 four regionally distinct communities were selected that (a) had sufficient numbers of children in grade school and in the Head Start program, (b) appeared feasible for longitudinal study, given expressed community and school cooperation and expected mobility rates, and (c) offered variation in preschool and primary grade experiences. The study sites chosen were Lee County, Alabama; Portland, Oregon; St. Louis, Missouri; and Trenton, New Jersey. Within these communities, elementary school districts with a substantial proportion of the population eligible for Head Start were selected. In each school district an attempt was made to test all nonhandicapped, English-speaking children who were expected to enroll in first grade in the fall of 1971 (that is, children of approximately $3\frac{1}{2}$ to $4\frac{1}{2}$ years of age).

In 1969 mothers were interviewed and children were tested prior to their enrollment in Head Start or any other preschool program. For this initial four-site sample, at least partial data were obtained on a total of 1,875 children, with Lee County and Portland constituting 60 percent of the sample. Sixty-two percent of the sample was Black, with boys comprising 53 percent of the overall sample, 54.5 percent of the Black sample, and 50.5 percent of the White sample. For the three sites in which children had the opportunity to attend Head Start in the second year of the study (1969-70), 37.2 percent of the sample attended Head Start, 11 percent attended other preschool programs, and 51.8 percent had no known attendance in Head Start or other preschool programs. In Lee County, where

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Head Start was a kindergarten program, 41.7 percent of the initial sample attended Head Start, 19.1 percent attended other preschool programs, and 39.9 percent had no known attendance in Head Start or other preschool programs. While racial composition of the Head Start sample varied by site, substantially more Blacks than Whites attended Head Start; only 13.3 percent of the children enrolled were White. For a variety of reasons, the St. Louis site was dropped in the third year of the study, and the 353 subjects there were lost from further longitudinal study. In June 1974, the six-year longitudinal sample contained 1,017 children in *three* sites. Thus, except for the loss of St. Louis, attrition over six years was limited to about one-third of the original sample, with losses distributed equally across sexes and sites, but relatively greater for Whites in each site. The six-year longitudinal sample went from 62 percent to 72 percent Black across sites.

The current analysis focused on children from the longitudinal sample (that is, those who were tested or whose mothers were interviewed in Year 1¹) who were below the 1969 Office of Economic Opportunity poverty guidelines, as determined by the parent interview given during the year Head Start was available to study children. Since the number of White families in the study meeting these criteria was relatively small, only Black children were included to eliminate the possibility of racial confounding. Scores on the Year 6 Cooperative Primary Tests were necessary to define the extreme groups, which markedly reduced the size of the sample available for this analysis since achievement tests were administered only in target classrooms (that is, classes with 50 percent or more study children who had been previously tested). Thus, the sample for the current report (henceforth referred to as the total sample) consisted of Black children from Head Start eligible families who were identified in Year 1 and had scores available on the Year 6 Cooperative Primary Tests. The total sample consisted of 100 boys and 86 girls. From this economically disadvantaged sample, the highest and lowest achieving children were selected by three different methods, which will be discussed below. Although most children were identified by all three

¹Throughout the report "Year" refers to year of the longitudinal study. Year 1 = January to August 1969 (child age 3½-4½); Year 2 = September 1969 to August 1970 (child age 4½-5½); Year 3 = September 1970 to August 1971 (child age 5½-6½); Year 4 = September 1971 to August 1972 (child age 6½-7½); Year 5 = September 1972 to August 1973 (child age 7½-8½); Year 6 = September 1973 to August 1974 (child age 8½-9½).

methods, some children satisfied the selection criteria for only one method.

The third-grade reading and math subtests of the Cooperative Primary Tests (Cooperative Test Division, ETS, 1967) served as the index of Year 6 achievement. The Cooperative Primary Tests are a nationally standardized achievement test battery developed by ETS and designed for use in grades 1 through 3. The tests are group administered, with the children responding by making an "X" on the one of the three response alternatives they believe is correct. There is no special instruction to the students about guessing, and there is no correction for guessing in the scoring. The teacher is instructed to allow a reasonable amount of time for all students to finish. To provide practice with this type of item, the pilot test included in the test package was administered first. Both forms of the reading test consist of 50 items, some of which assess the comprehension of individual words, while others require the students to extract a key element from a sentence or paragraph or provide some interpretation, evaluation, or inference based on the sentence or paragraph. The math test consists of 60 items covering the following topics: number, symbolism, operation, function and relation, approximation, proof, measurement, estimation, and geometry. Straight computation is not emphasized, but rather an attempt is made ". . . to test major concepts of mathematics in their emergent state" (Cooperative Test Division, ETS, 1967). Form 23B of both reading and math was administered.

The first method selected children for the extreme groups on the basis of their raw scores in reading and math. The 25 highest and 25 lowest scoring Black Head-Start-eligible children, irrespective of sex, were identified separately for the two subtests. Each of the resultant groups thus contained approximately 14 percent of the total sample, and the means of the high and low groups were more than two standard deviations apart. Within this group the 10 highest and lowest scoring boys and 10 highest and lowest scoring girls were then identified. Table 1 presents the means and standard deviations on reading and math for the total Black Head-Start-eligible longitudinal sample and for groups identified by this method. These values can be compared to the national standardization sample for the Cooperative Primary Tests where the reading mean was 36.1 with a standard deviation of 8.6 and the math mean was 39.4 with a standard deviation of 9.0.

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Table 1

Means and Standard Deviations on Reading and Math for the
Total Sample and Extreme Raw Score Groups

Group	n	M	SD
<i>Reading</i>			
Total Sample	174	25.16	8.32
High Combined Sexes	25	39.36	2.87
Low Combined Sexes	25	13.80	1.83
High Boys	10	39.10	2.77
Low Boys	10	12.80	1.32
High Girls	10	41.30	1.89
Low Girls	10	14.00	2.11
<i>Math</i>			
Total Sample	181	28.50	8.43
High Combined Sexes	25	42.80	3.21
Low Combined Sexes	25	16.68	2.81
High Boys	10	44.30	3.61
Low Boys	10	15.70	2.71
High Girls	10	42.90	2.38
Low Girls	10	16.60	3.17

The second method selected Black Head-Start-eligible children whose performance was significantly better or worse than predicted from Year 1 scores on the Preschool Inventory (PSI) (Cooperative Tests and Services, ETS, 1970). The 64-item PSI was selected as the predictor because it is a highly reliable test of preschool achievement and had the highest loading on the general information-processing factor defined in Year 1 (Shipman, 1971). Since age at time of testing was known to affect PSI scores, the scores were age-adjusted by regressing total scores on age at the date of testing. The age-corrected PSI scores were then used in standard least-squares regression equations to obtain a predicted score for each child in reading and math. Separate regression equations were used for boys and girls. For boys the correlation between Year 1 PSI and Year 6 reading scores was .36 (regression weight $[b] = .29$), while for girls the correlation was .45 ($b = .39$). The correlations between PSI and math performance were .25 ($b = .23$) for boys and .35 ($b = .29$) for girls. Separately for read-

ing and math, the difference between the actual and predicted scores for each child was computed, and for each subtest the 10 boys and 10 girls with the greatest positive difference scores were selected; similarly, the 10 boys and 10 girls with the greatest negative difference scores were identified. Due to regression to the mean, the highest and lowest predicted scores were substantially closer to the mean than the highest and lowest actual scores. Thus, most of the children selected by this deviation-from-prediction method also were selected by the first absolute-score method.

To avoid apparent mislabeling for some children caused by the regression-to-the-mean effects of this second method, a third method was used that identified children whose initial PSI scores were one standard deviation above or below the average of the total sample and whose Year 6 reading and math scores were one standard deviation below or above the mean. Thus, these were the children showing the greatest change in achievement performance. Since the mean PSI score was 23.25 with a standard deviation of 9.89, any child with a score of 13 or less was considered low on the PSI and any child with a score of 33 or more was considered high. By this criterion 15 boys and 7 girls, or about 12 percent of the sample, were defined as low while 10 boys and 15 girls (about 15 percent of the sample) were classified as high. The mean of the reading scores was 25.16 with a standard deviation of 8.32; thus scores of 33 and above were considered high, while scores of 17 and below were considered low. For the math scores (mean of 28.5 and standard deviation of 8.43), high scores were those of 37 and above, while low scores were 20 and below. The deviation sample resulting from this method of selection comprised those children in the low-high and high-low categories for each subject area. The 10 children in this group—4 in reading, 5 in math, and 1 who was included in both the reading and math areas—were chosen for particularly intensive case study.

Data collection and processing procedures

General strategies

To achieve the broad goals of the study, the measurement strategy required selection of a variety of measures that would help describe more adequately the complex interrelationships and structure of

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children's abilities and characteristics over time and permit determination of their interaction effects with particular preschool and primary grade programs. Measures encompassing objectives claimed by preschool and primary-grade programs were included, along with measures of development that social science holds as important for human functioning. Measures also were included that would help delineate basic cognitive, affective, and social processes and their courses of development. Tasks were selected to allow continuity of measurement across age periods, through the use of vertically equivalent forms over time, and multiple measurement of the same variable (within a context) across several age periods so that possible developmental shifts in expression could be monitored. Process rather than static variables were emphasized, especially process variables involving parent-child and teacher-child interactions, such as modes of information-processing and reinforcement strategies. To the extent possible, measures were included that tapped functional characteristics or perceptual and cognitive styles affecting learning, such as individual differences in ways in which children approach a task, kinds of cues selected, strategies of organization, speed of decision and response, and persistence. Implicit throughout was the belief that only for the intermediate purpose of structural analysis and derivation of measures within domains could one separate cognitive, perceptual, social, and affective domains or study the children without taking environment into account.

The six years of research with the longitudinal study sample included a total of about 25½ hours of testing for each child, 4½ hours of interviews with each of their mothers, 1½ hours of observing each mother-child pair working together on tasks, and a physical examination of each child. In addition, 18 days were spent observing each Head Start class, 3 days observing kindergarten, first-, second-, and third-grade classes, and two half-hour periods watching each child during "free play" in preschool. About 4 hours of each Head Start, kindergarten, first-, second-, and third-grade teacher's time was taken to supply information about herself and the children in her classes, an hour for each Head Start aide, more than an hour of each Head Start center director's and principal's time to describe the preschool centers and elementary schools in general, and many consultations with community agencies to obtain information about the environments in which the children lived.

The major variables toward which these information-gathering

efforts were directed include: (1) *the family*, both status and process variables, that is, those variables describing what the family is (for example, ethnic membership, occupational level) and what it does (for example, the mother's teaching styles with her child and her attitudes toward the schools and the learning process); (2) *the teacher*, including such things as background characteristics, attitudes, abilities, teaching goals; (3) *the classroom*, both program components and teacher-child and peer relationships; (4) *the school*, physical characteristics and organization as well as relationships between teachers and administrative staff; and (5) *the community*. The largest percentage of measures included, however, were those designed to tap several aspects of (6) *the child*, for example, health information and cognitive, perceptual-motor, affective, and social development.

Data collection procedures

Community support and participation were essential if useful data were to be obtained. Community leaders and administrators were consulted, and written intents (not merely consents) to participate in the study were sent to ETS by both community agencies and local school boards. Field operations were organized around local staff who served as coordinators, interviewers, testers, and observers. For the first phase of data collection, household canvassing, and parent interviews, ETS subcontracted with the New York City firm of Audits and Surveys to locate eligible children and then complete a 90-minute ETS-prepared interview with each eligible child's mother or mother surrogate. The interviewers, all female and matched by race with respondents, were recruited from the local communities, with the staff of Audits and Surveys responsible for both training and supervision. In subsequent years of the study, parent interviews were conducted in a similar manner, except that ETS assumed the training and supervision responsibilities that had been subcontracted to Audits and Surveys. During a child's Head Start year, the mother was interviewed in the testing center; home interviews were again obtained when the child was 9 years old.

During the first study year, individual child tests and mother-child interaction tasks were administered by local women, most of whom were Black housewives with limited work experience. While the usual educational credentials were not required, experience in

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working with young children was considered highly desirable, as was the ability to read well and speak with ease. After four to five weeks of training, final selection of testers was made by the project director and a senior member of the research team. Testing was monitored by the local coordinator and by ETS regional and Princeton office staffs. Training procedures were essentially identical in later years except that, with increased experience, the training period could be reduced to three weeks. In the early years of the study, test centers were located in churches or community recreation facilities, while in later years testing was done in rooms available in the individual schools or in mobile vans parked outside the schools. Each year, individual tests were grouped into two or more batteries, with each battery usually administered in a single session. Each battery included measures representing the range of areas being assessed; the order of tests within batteries reflected consideration for the need to balance types of responses (active vs. passive, verbal vs. nonverbal) and to stimulate and sustain the child's interest.

In the second year of the study, a variety of measures were used to assess the preschool experience of all children enrolled in Head Start or other preschool classes in the urban sites. Random time samples of individual children's behavior were collected throughout the year with PROSE, a structured observational procedure. Also, an attempt was made to obtain personal-social ratings of these children in the late fall and spring. Two trained local women observed each child's behavior during "free play," and later resolved any discrepancies in their independent ratings in order to form a single consensus rating on each scale. Global Classroom Ratings describing teacher-child and peer interactions were similarly obtained, except that observations for this instrument were not limited to "free play" periods. Global Classroom Ratings and teacher questionnaires were obtained in target classrooms for each subsequent year of the longitudinal study, with a target classroom defined as any class containing 50 percent or more study children. In grades 1-3 the observer who made the Global Classroom Ratings also provided information for the Assessment of Classroom Programs Inventory. Also, in grades 1-3, each teacher in a target classroom was asked to rate study children and their classmates with the Schaefer Classroom Behavior Inventory and the Enhancement of Learning Inventory. The local site coordinator explained the procedures and each teacher received a small honorarium for completing the tasks.

In the primary grades several group-administered measures were obtained. Group achievement tests were administered in the spring by the classroom teachers in target classrooms. The local coordinator explained the procedures for group testing and was available to assist the teachers as needed. Local ETS staff administered the Coopersmith Self-Esteem Inventory to all third-grade target classrooms to enhance the child's feeling of confidentiality in the information obtained. At the end of each school year, attendance, standardized test, and report card information were obtained from each school for study children.

Data processing

The data from all the above measures were scored and coded at the item level by Princeton office staff, and all scoring and coding was double-checked. The coded data were keypunched and independently verified, after which the individual data tapes were edited for appropriate ID listing and for out-of-range and logical inconsistencies in coding. To facilitate analysis across different measures and time periods, merge tapes for each study year were prepared that comprised all derived family and child scores from the separate task tapes. For a more detailed description of data collection and processing procedures, see Project Reports 72-18 (Shipman, 1972) and 75-28 (Shipman, McKee, & Bridgeman, 1976).

Results and conclusions

As might be expected, the case studies revealed the multiple determinants of academic success or failure; on first reading, each child's record appeared to have a unique history of causal antecedents. Among the many child, family, and school variables examined, no one score or composite of scores was consistently associated with level of academic achievement. When examining the extent to which children were categorized as exceptional according to geographical region, family structure, sex, and preschool attendance, only consistent differences according to site were evidenced, with more children from Lee County doing poorly and more children from Portland doing relatively well in reading and math. However, the extent to which site differences reflect differences in initial sam-

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ple characteristics, geographical region, urbanness, preschool teacher certification, preschool program sponsor, and age of preschool entry (all of which are confounded with site in this sample) or other unmeasured relevant variables is unknown. Since most of these Head-Start-eligible children had actually attended Head Start, preschool experience *per se* did not differentiate high- and low-scoring children; however, in checking those children who had been retained in first or second grade, a more severe index of poor school progress, a higher percentage of children who had not attended preschool was found. Moreover, for those Head Start children who later attended a Follow Through program, the data suggested the positive impact of continued broad services to the children and their families. When examining teacher background characteristics (that is, age, years of schooling, and amount of teaching experience), it was found that, at any one grade level, most teachers had children in both the high and low categories; gross school variables such as school size, class size, and percentage of minority students also revealed no consistent differences, although schools with more support staff tended to have more children in the high-achievement groups. Such findings point to the importance of investigating specific teacher-child interactions for understanding school effects.

Point-biserial correlations obtained between a selected group of family-status, situational, and process variables and the child's designation in high or low reading and math groups indicated that, even within this restricted sample of economically disadvantaged families, differences in parental educational level, physical resources in the home (that is, amount of material possessions, extent of physical crowding), and encouragement of school-relevant skills and attitudes (for example, frequency of reading to their 4-year-old child, level of educational aspirations and expectations) were associated with the child's later school progress. Similar findings were obtained by Greenberg and Davidson (1972) and Stedman and McKenzie (1971) in their research with high- and low-achieving low-socioeconomic-status urban northern Black and southwestern Mexican-American children, respectively. Low-income families are not a homogeneous group. The lack of association obtained between parental occupational status and children's academic achievement again highlighted previous reported study findings (Shipman et al., 1976) on the apparent different meaning of this variable for Black and White families.

Effect of early home influences

These data are consistent with the extensive research literature on the important relationship of early home influences and a young child's school performance (for example, Bronfenbrenner, 1974; Hanson, 1975; Hess, Shipman, Brophy, & Bear, 1969; White, Day, Freeman, Hantman, & Messenger, 1973). Although status, situational, and process variables may share considerable commonality in their prediction of the child's subsequent reading and math performance, the process variables help provide important explanatory information and programmatic clues that are not obvious from status characteristics alone. As was pointed out in a recent extensive discussion of relationships among family-status, situational, and process variables and children's academic achievement (Shipman et al., 1976), status characteristics may be viewed as providing differential opportunities for various processes to emerge. Thus, a higher level of parental education is associated with greater academic knowledge, increased awareness of public affairs and popular culture, more informed perceptions of school, and continued seeking of new knowledge, as in reading books and magazines (cf. Hyman, Wright, & Reed, 1975), all of which may have impact on a child's knowledge and motivation for learning. In addition, by providing differential opportunities for a parent's participation in society, there may be indirect effects upon the child via parental attitudes and child-rearing behaviors acquired through such experiences. Another example of the interrelatedness of status, situational, and process variables is the commonly found association between low economic status, high household density, and parental use of physical punishment with their children. The negative effects of crowding have been shown to be exacerbated by additional stresses in the home (Booth & Edwards, 1976). Family process variables are thus considered as the underlying mechanisms by which child outcome differences associated with family-status characteristics are created and maintained.

A variety of measures of children's functioning at age 4 were found to be useful in identifying children likely to do well or poorly during the course of their acquisition of the basic school skills of reading and math. Such measures were not limited to those in the cognitive-perceptual area, but included tasks assessing affective behaviors (that is, self-esteem, cooperation) and cognitive styles (that

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is, reflectivity). These findings suggest that a number of preschool measures of children's cognitive, affective, and social functioning may indicate early strengths and weaknesses relevant to the children's later school functioning, perhaps in part due to their reflecting children's differential responsivity to early intervention. Further analyses of data collected at ages 5 and 6 are likely to suggest other important areas of inquiry, with some measures not found to be differentially predictive at age 4 becoming so at a later developmental stage. For example, preliminary analyses suggest that this is the case for the reflectivity-impulsivity dimension assessed with the Matching Familiar Figures Test and for academic achievement motivation that newly emerges during children's attendance in a preschool program. The positive use of such measures as initial screening instruments to provide guidance for tailoring programs to meet children's needs should be emphasized, as contrasted with their use in making placement decisions that may act as self-fulfilling prophecies. Preschool assessment can facilitate the provision of programs geared to the individual needs of children rather than those planned on the basis of their ascribed needs, according to various status characteristics.

But a major conclusion from these data is that these family and child variables are not necessarily associated with exceptionally high or low academic achievement; for any one of these variables, or a composite of home or child variables, much of the variance in individual scores remains unaccounted for. Also, the correlations do not provide rationales for the degree of association obtained. Thus, to obtain clues to the nature of moderating variables, it was decided to study intensively those children who showed the greatest absolute deviation in cognitive-perceptual performance, whether in a positive or negative direction, thereby taking into account potential interactions among family, child, and school variables and also differential sequences of school experiences.

Interaction between family, child, and school

The emerging causal hypotheses derived from this intensive case study approach may be grouped into three major categories of locus of change: the child, the home, and the school. Within each of these broad classifications, a number of subcategories can be derived. For example, change in a child's cognitive-perceptual performance can

be viewed as a function of change in the child's physical well-being (for example, a serious illness or accident leading to sensory impairment and/or absence from school, remediation of an interfering defect, or gradual "catch up" with developmental lag arising from premature birth); emotional status (for example, becoming more or less shy and inhibited in responding to an unfamiliar adult in a testing situation or being more or less willing to attempt a response when the questions become more difficult); motivation (for example, changes in the child's valuing of school performance, in expectancies for success in performing school tasks, and in enjoyment in the school situation); and in general cognitive strategies (for example, changes in ability to attend, reflect upon, or differentiate). As the case studies clearly exemplified, however, rather than acting in any simplistic compartmentalization, these changes in a child's functioning should be viewed as dynamic interdependencies among physical, affective, social, and cognitive behaviors. For example, for some children, preschool attendance appeared to affect most their self-confidence and ease in relating to others; these changes in personal and social variables later enabled them to better attend and assimilate academic instruction. For others, acquisition of new pre-academic skills in preschool appeared to be causally related to their increased social and affective competencies.

Nevertheless, except for one child for whom a serious accident did seem to account for the striking decrement in performance, the above postulated changes, evidenced in the case histories examined, could not be viewed as sufficient causes. Examination of other case histories reflected similar events but without the same consequences.

In examining responses to the three parent interviews obtained when the children were 4, 5, and 9 years of age, examples were provided for changes in family-status, situational, and process variables. Changes in status and situational variables included those in family structure, employment status, welfare status, material well-being, home ownership, crowding, mobility, and so on. Attitudinal and behavioral changes were noted also, reflecting changes in feelings of alienation, powerlessness, and optimism, in child-rearing practices and in participation in school-related activities. Again, no one area of change was unique for families of exceptional study children.

Similarly, examination of programmatic information gathered regarding the schools and classrooms children attended yielded no

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striking contrast at any one grade level. But, when examining the data sequentially, a pattern did emerge for children in the exceptional positive deviation category; a cognitively stimulating atmosphere where the teacher was rated at least moderately warm had been present for at least several years. For example, what may have started as small increases in the child's knowledge of school-relevant information, confidence, task orientation, and achievement motivation in a Head Start preschool program was apparently reinforced and enhanced by teachers in kindergarten and later primary grades. Most of these children (in contrast to many others in the study sample) never had teachers who were described as unenthusiastic, unprepared, using primarily negative reinforcement techniques, or providing little cognitive stimulation.

Continuing warm, stimulating environment

The most common picture that emerged for those children who showed the most gain in academic achievement was the previously mentioned continuing warm and stimulating classroom environment combined with a home environment that provided the child emotional support in general and support for school activities in particular. Examples of parental school-supportive activities included visiting the school, participating in classroom activities, knowledge of the child's functioning in school, higher expectations for the child's educational attainment, and, in some cases, the parents' involvement in their own continuing education.

It must be emphasized that, for these deviation cases, the above examples of supportive activities emerged following the initial parent interview. In some cases they reflected changes in parental behavior as a function of the preschool program the child attended. For example, in one family, the mother began by visiting her child's preschool program, later became a volunteer classroom aide, and by the time the child was in third grade had returned to school for a GED high-school equivalency certificate and was enrolled in a local community college. Both parent and child showed parallel educational growth. But it appeared obvious that the home did not impact on the child's progress in a sole or independent fashion. The child's preschool and grade school experiences were directly facilitating not only to him but to his mother, and thereby also acted indirectly on the child. The mother obtained information and emotional support

in the school setting. In response to greater acceptance, she participated more, and from such participation appeared to develop an increased sense of efficacy and optimism with greater awareness and use of community resources to meet family needs.

Another example of parallel child and family growth is seen in the following case. During the first two years, Mary (fictitious name) was generally moody, restless, and uncooperative in the testing sessions, both with her mother and the testers. She appeared quite timid and shy with strangers. Her mother, estranged from her husband, and living on welfare, also appeared somewhat aloof and negative. She reported having no friends or relatives and rarely going out. Mary attended a summer Head Start program prior to kindergarten, subsequent to which she appeared less shy and socially immature. She also performed better on the Year 3 measures. Classroom observations indicated that she attended a highly motivating, stimulating first grade. Her teacher provided considerable feedback and intellectual stimulation, often using unplanned incidents that occurred. Students appeared happy and involved and the teacher individualized the curriculum to a great extent. Mary prospered in this environment and her teacher described her as a mature, responsible, and excellent student. Mary's attitude toward herself and school improved considerably, and she did well on the various measures we administered that year. She continued to have a warm, individualized, and stimulating classroom in second and third grades. Mary's school records got progressively better, both academically and emotionally; she was described as having matured socially, as being a responsible, well-liked classmate, and as exhibiting a very high level of persistence in her schoolwork. Meanwhile, her mother appeared considerably less alienated, held high aspirations for her child's educational attainment, and had enrolled in a community college. Mary, a shy, uncooperative 4-year-old, was at age 9, a confident, happy child enjoying school and performing well.

Another child, the youngest of 15 children, was very nervous and shy during initial testing. Not used to being required to do things on his own, he refused several tasks and cried often. The next year he attended Head Start. According to his mother, Head Start "changed him in every way," but especially in helping him learn to play with other children and become more independent. When seen again at the testing center, he was no longer reserved and shy. In addition to these increased social skills, his test performance showed that he had

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gained much from the cognitive stimulation of the preschool program and also from his daily viewing of "Sesame Street." Moreover, his parents continued to provide a very warm, affectionate home environment. Both parents were highly supportive of school activities; they read to their son often and had high educational aspirations for him. Despite the many children in the family, the mother's interview responses reflected a very differentiated and realistic appraisal of her child's strengths and weaknesses. In kindergarten he was described as having made very good classroom social and emotional adjustment and was a happy, independent, and able learner. His first-grade classroom appeared generally unstimulating, but the children were attentive and studious and the teacher tried to individualize the curriculum in a generally open, permissive environment. In contrast to Head Start he reported liking school "only a little bit." His performance in school and on our test batteries, however, remained above average. Fortunately, his classroom experiences were much more positive thereafter. His third-grade class, organized for team teaching, was a particularly happy, orderly, and stimulating environment. The teachers were affectionate and spent much of their teaching time with individual children. Again, home and school together provided a nurturing and supportive environment for the child's growth.

Tragedy of failure to interact

Just as the above cases exemplify the realization of the child's potential for growth when home and school work together to provide an emotionally supportive and cognitively stimulating environment, the next example indicates the tragedy that evolves when home and school not only fail to interact, but when there is a lack of communication and coordination among adults representing various social agencies purported to serve the child. When first seen at the testing center, John (fictitious name) was outgoing, friendly, and verbal, responding well to the variety of tasks in the four-day battery. He lived with his mother and two older sisters in a small crowded apartment with few conveniences or possessions of his own. During the mother-child interaction sessions, he showed considerable initiative in responding and was highly task-oriented and attentive. His mother was affectionate and provided him with frequent positive feedback and praise. Although she was somewhat limited in presenting

task-relevant information, the child learned the task quickly and well. When seen the following year at age 4½, John continued to perform well on the many diverse tasks administered, and testers consistently described him as an attentive, friendly, verbal boy with whom they enjoyed working. He attended a Head Start program and was described by his teacher as socially mature, creative, and quick to learn. His kindergarten teacher gave a similar appraisal, although she noted he seemed somewhat bored. His individual testing that year continued to indicate above-average cognitive and social competencies. When interviewed in first grade, he expressed strong liking for school, especially reading. The teacher rated him as very task-oriented, friendly, and nonaggressive. However, he changed from public to private school in first grade and, when he transferred back to public school in second grade, he began to show increasing absenteeism. His test performance, however, continued to be adequate. That year his teacher rated him as only somewhat attentive in school. In third grade he continued to perform well on individual tests, but, when interviewed again about school, he expressed considerable dislike, especially for reading. His teacher described him as not at all attentive in his school work and not friendly with his classmates. On the group achievement tests, he scored significantly below the mean performance level for other Black Head-Start-eligible study children. During the home interview, the mother repeatedly expressed concern about her son. She reported that within the past two years he complained increasingly of stomachaches, necessitating increasing absence from school. He finally had to be hospitalized and was tentatively diagnosed as having a stomach ulcer. The mother felt that her son's problems were due to emotional upset over not having a father. Although badly wanting to help her son, she didn't know what to do. There was no indication of communication between home and school, no sharing of information, no provision of resources. Teachers at different grade levels apparently were not questioning the discrepancies in teacher ratings and attempting to understand and counteract their cause. Nor was the physician who treated this child consulting with his teachers or obtaining counseling help for him or his mother. Yet without such communication, such combining of knowledge and resources, how likely is this child, particularly one who is economically disadvantaged and of minority status, to reverse his downward achievement trend? Instead, a horrendous cycle of absenteeism, lit-

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tle if any academic progress, negative reinforcement, reduced academic motivation and interest, and increasing anxiety and negative self-evaluation has been set in motion.

In other cases, early gains gradually or abruptly disappeared in the absence of home and/or school support. One 4-year-old study child lived with her parents and four siblings in a bare two-room apartment with no toys, books, or TV. A grandmother babysat when the mother went to work. At age 5, this child attended Head Start. The teacher was affectionate, enthusiastic, and stimulating and worked with the children in various size groupings to match individual needs and preferences. Angela (fictitious name) was happy with newly discovered toys and materials and improved in her test performance. There was continuity of enthusiasm, affection, and stimulation in Angela's first-grade classroom, and she received special reading instruction to continue the progress she made in preschool. At the end of the year, it was recommended that she not continue with the special instruction. Her teacher noted that Angela was "definitely capable of reading but needed constant encouragement." Unfortunately, she did not receive the attention and encouragement she needed. Subsequent classroom observations in third grade revealed that the teacher offered no stimulation of thinking and displayed no affection or enthusiasm; efforts at individualization were rare. The home interview revealed no parental encouragement or stimulation of intellectual activities and little knowledge of their daughter or her progress. This case and many others clearly indicate the need for working with the total ecology of the child if we truly care and wish to serve our nation's children well.

Before concluding this description of study findings, it must be pointed out that there were cases where examination of the many accumulated bits of information provided no apparent clues as to causal factors for exceptional academic gain or loss. Some children appeared to have everything working against them, an exceedingly impoverished, continually stressful, nonsupportive home environment and a sequence of unexceptional classroom settings, but they still evidenced strong academic skills in third grade. Of course, the consequences of these negative factors may appear later. One such child has begun to express increasingly negative statements about himself and his family, negative feelings that, if continued, may increasingly interfere with other areas of functioning. However, it is also clear that, despite the extensive and in-depth assessment pro-

vided in the present study, we have only begun to tap the surface of the crucial dynamic factors in the child and his or her environment that affect performance in the school setting.

Significant generalizations

Some significant generalizations emerged from the intensive longitudinal examination of these exceptional study children.

1. Any particular aspect of individual functioning must be evaluated in the context of other aspects of the developing organism and the environmental conditions in which the organism is behaving. For example, development of affective and intellectual behaviors were found to be closely intertwined, and knowledge of behaviors in one domain aided interpretation in the other, whether for understanding responses to the tester or to teachers and peers in the classroom. Similarly, intellectual and motivational correlates of variation in the child's health and physical status were evidenced.
2. Furthermore, the implications of many variables become understandable only after examining the variables and their interactions developmentally. This suggests a theoretical approach that considers developmental changes, in both the child and the environments in which that development is embedded, and more extensive use of longitudinal designs. It also implies that providing exceptional children, such as those in the present sample, with appropriate learning environments requires a historical perspective that a cutoff score does not suggest.
3. Not only do home and school variables, particularly parent-child and teacher-child interactions, influence a child's behavior, but most such effects are reciprocal and not unidirectional (for example, the case history of "John").
4. Interactions of individuals and the environments in which they function are dynamic; predictability of a child's achievement from early indices of the home environment should not be interpreted to mean that these predictors necessarily determine the child's achievement. Families, children, and schools can and do change, with corresponding changes in the nature of their interactions, and such change can be facilitative or harmful. In con-

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trast to some interpretations of early childhood research findings, for example, White and Watts (1973), the age period 3-6 is not just a period of refining established relations.

5. In many cases, developmental progress was gradual across the time intervals in which measures were administered. In addition, growth in one domain often served as a precursor to growth in another; thus, development in one area may proceed in seemingly irregular spurts and be inappropriately assessed by traditional linear analytic methods. We need to develop greater sensitivity to measurement and interpretation of such changes and their cumulative effects so that we can enhance positive growth and counteract possible negative influences. These considerations also suggest the importance of long-term evaluation of intervention efforts. It may take several years of small cumulative gains before such gains are large enough to be statistically significant, which may account in part for some of the "sleeper" effects recently reported for upper-elementary grade low-socioeconomic-status children who had experienced early intervention programs (Palmer, 1976; Seitz, Apfel, & Efron, 1976).
6. As a corollary, facilitating influences usually require continuing reinforcement to maintain their positive effects. For example, most youngsters in Head Start evidenced increases in preacademic skills, task orientation, achievement motivation, and social skills in relating to their peers and to other adults. The academic gains generally were not maintained, however, when the grade-school program apparently did not capitalize on children's acquired skills and motivation. The finding by Coleman and his colleagues (1966) that disadvantaged children are more affected by the quality of teaching may be more crucial as children's sensitivity to their school experience is heightened by programs such as Head Start. For those children who showed the greatest gain in academic skills between ages 4 and 9, following Head Start attendance, there was a continuity of facilitating school experiences; at each primary-grade level these children had enthusiastic, warm, positively motivating, cognitively stimulating teachers who taught in a one-to-one or small-group setting. Such continuity in facilitating school experiences is particularly nonexistent for a sizable minority of low-income children who move frequently between schools, a situation common to many urban

areas. Moreover, this continuing warm and stimulating school environment was combined with a home environment that provided the child emotional support in general and support for school activities in particular.

7. Finally, in reviewing the information gathered, one becomes acutely aware of the multiplicity of positive and negative factors for the children in these extreme achievement categories. Thus, it is not a particular parent, teacher, or child attitude, attribute, or behavior, or a particular social setting, but the cumulative effects of their multiple interactions. Moreover, for different children, different clusters of variables appear to be differentially effective, suggesting the need for multidimensional assessment of individuals and their environments.

Hypotheses for further study

The present case study approach has generated a number of hypotheses that should be investigated further in the larger study sample. In future analyses, particular attention will be paid to investigating the complementarity of home and school influences, differential effects for congruent and noncongruent instructional sequences in relation to child characteristics, and the nature of the complex interactions among affective, social, cognitive, and perceptual development. Subsequent analyses might examine whether home and school influences operate in an additive or interactive fashion in their impact upon a child's educational progress. Also, there is need for more precise delineation of the meaning of continuity of experiences. To continue to meet a child's developmental needs, continuity may necessitate change, not continuation, of experience. Again, a "building block" notion of dynamic transactions (cf. Sameroff, 1975) appears to provide a more adequate conceptualization of what occurs in these environmental interactions. Also, further efforts to delineate the most predictive composite at each age within socioeconomic status, sex, and race subgroups for those measures administered during the first four study years should provide guidance to current efforts at early screening and identification of children with potential learning disabilities. There is also considerable need for more research aimed at understanding those children who show outstanding resilience amid considerable environmental stress. When examining these case histories, one cannot help but be im-

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pressed by the strengths one perceives in the children and in their families. Most studies in the literature, however, have focused on pathology; our understanding of such strengths is meager at best.

As case histories in this study indicate, low socioeconomic status and minority group membership do not necessarily imply low school achievement. The children showed a wide range of aptitudes and abilities. Moreover, parents and teachers do make a difference. Thus, findings of this study are supportive of the importance of early parent-child interactions as well as the child's early acquisition of school-relevant skills and motivation and programs such as Head Start that emphasize the parents' involvement in the child's educational experience. In describing the interrelatedness of family status, situational, and process variables, the data also suggest the potential positive impact of economic aid to impoverished families in raising competence levels in the children (that is, even small differences in material possessions and household density were associated with children's higher achievement) and the necessity for coordination of services to support the children and their families. These findings, and the several case histories described, are consistent with projects recently reviewed by Meier (1976) in suggesting that cognitive gains are likely to be largest and to be sustained when there is support in the total ecology of the child, not just in the quality of parent-child interactions alone, but also in adequate health care, nutrition, housing, and general family support. They also support his proposal for neighborhood family development centers to coordinate comprehensive service, training, and research functions as a basis for modifying the total ecology of the developing child.

The data also indicated the potency of classroom interactions on the child's progress. Similarly, in his recent book, Bloom (1976) challenges the schools to provide all children with appropriate learning opportunities and describes a mastery approach that had promising results with older students. The importance of the complementarity among socializing influences, however, was evident in the present sample. Parent-to-child or teacher-to-child models appear too simplistic for characterization of minority children's achievement behaviors. Sustained intellectual growth depends on the quality of relationships established between parent, teacher, and child. More research and development activities are needed that focus on elaborating the mechanisms by which home and school can work more effectively together to enhance a child's development.

The children in the present sample would be considered by most as "children at risk," but, in following six years in their lives, we see no inevitable sequence of events that could not have been otherwise determined. The case studies that exemplified the nurturance and acceleration of competencies during the six-year span of the study speak out against those who accept the inevitability of increasing despair and failure for low-income minority children in school. Our responsibility is to create situations where such children are typical, not exceptional. These children had families able to provide love, concern, and support for their school activities, teachers who provided them with the necessary encouragement, stimulation, and reinforcement for learning in a manner responsive to their particular learning styles, and they were not beset by physical or other problems interfering with their ability to respond adequately and progress. We must coordinate our nation's resources to assure that no child receives less. It is hoped that this study provides some clues to the theoretical considerations and applied strategies that will contribute to that undertaking.

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STUDENT ABILITY, STUDENT BACKGROUND, AND STUDENT ACHIEVEMENT: ANOTHER LOOK AT LIFE IN EFFECTIVE SCHOOLS

Tommy M. Tomlinson
Senior Associate
National Institute of Education

Departing slightly from the story line of this conference, I would like to approach the issue of effective schools and student achievement from the socially neutral standpoint of a conditional theory of learning, one that is generally applicable and that provides a model of an ideal context for schooling as well as for learning.¹ The theory will be grounded in both research and conventional experience and will presume to speak to the causes rather than the correlates or products of student achievement. It will be a model by which to judge the likely effects of any school on any child in the production of learning. When I finish I hope to have constructed an uncomplicated theory that will rationalize and explain most of the found effects that the effective-schools literature discovers to be differentially associated with student achievement.²

Let me start by attempting to decompose that controversial and, for too long, ineffable variable, student background, perhaps to move us beyond the superficial but popular notion that it only means either privilege or poverty. I do this for two reasons: (1) the twin variables of ability and background invariably emerge as the two most robust determinants of student achievement, and (2) they

¹I distinguish between learning and schooling in the following way: Learning is what children do with or make of their experience; schooling is what schools do with children by way of providing them with experience, usually in the form of some sort of educational treatment.

²By effective-schools literature, I mean all the various studies and reviews that have offered evidence of one or another significant factor in student achievement beyond student ability and background.

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have seldom been examined with an eye to separating the components that are insensitive to school treatment from those that may be directly and efficiently managed in the production of learning.

To gain a better perspective on the components and the behavior that is captured in proxy by the concept of background, I would like to call upon the evidence contained in two recent works. One, by Entwisle and Hayduk (1978), describes the experience and performance of children during the first two years of school and gives special attention to the class and race related differences in the beliefs, behavior, and experience of the children and their parents.³ The other, by Atkinson, Lens, and O'Malley (1976) describes the relationship between motivation, ability, and work in the production of academic achievement and also gives special attention to the differences in these attributes among children of different social classes. Taken together, the two studies provide a picture that helps us to understand why the ability of poor children is not reflected in their school performance and, by implication, what the schools might do that would allow expression of their apparently suppressed academic variability.

Children's beliefs and school behavior: Origins of unskilled labor

Based on a two-year sample of a projected long-term longitudinal study of two schools, one serving middle-class and one serving working-class children⁴ in Baltimore, Maryland, Entwisle and Hayduk provide the following (paraphrased) conclusions:

³Although there is a large body of literature on the relationship between student characteristics and learning, especially with regard to poor children, the implications of that information have been largely ignored in the design of schooling or the educational treatment of poor children. One often hears the research dismissed on grounds that it blames the victim or speaks to characteristics that are not susceptible to intervention. Entwisle and Hayduk's research is generally consistent with what has come before it, and avoids the "victim" pitfall by the sophistication and practical consequences of its analysis and interpretation. For this reason, rather than summarize the relevant research, I have chosen to develop an argument based on a particular work, which argument captures the sense of previous work and advances our understanding of both the dynamics of the children's behavior and the appropriate treatments.

⁴Entwisle and Hayduk use the working-class descriptor to connote the occupational status of the parents whose children attend Baltimore's inner-city schools. What is true of the working class in their analysis may be reasonably assumed to be true for lower-class children, probably more so. Indeed, the term *working class* probably con-

1. White middle-class and both Black and White working-class children enter school predicting high achievement in the first grade. All of the children predicted grades that were higher than they typically received, that is, they overpredicted their achievement. Working-class children predicted substantially higher grades than the middle-class children and received substantially lower grades than the middle-class children.
2. Middle-class White parents more accurately predicted their children's performance than working-class parents, whose predictions were substantially lower than those of their children.
3. The grades predicted by White middle-class and working-class parents were closely related to their children's IQs. This relationship was not observed in significant degree for Black working-class parents.
4. Upon predicting second-grade performance, middle-class children correct their estimates in light of their first-grade performance. No matter how poorly (or well) the children of the working class perform with regard to their own expectations, they are unlikely to change their predictions of success the next time around.
5. Working-class children attended a school that, from the standpoint of staff quality and resources, was considered first class, but it graded the children according to their substantive (test) performance, while the middle-class school graded according to the efforts (work habits) of the children.

A reasonable and, in light of the small sample, speculative but heuristic interpretation of these results (for which Entwisle and Hayduk are not responsible) moves along the following lines.

There is a clear distinction between these middle-class and working-class parents in their beliefs and assumptions about intelligence and scholastic performance. Middle-class parents, who were all White, evidently consider and calculate their child's prospects in school as a function of their estimate of the child's IQ. This assessment apparently means that the parents observe their children with an eye to appraising the child's behavior and scholastic interest

notes what is often taken to mean lower class, but in any event the reader can assume that this analysis is probably conservative with regard to the implications for lower-class children.

against their understanding of the requirements of the schooling process. The calculation that produces the estimate takes account of the child's ability to learn things that lie outside the child's "natural experience," for example, the alphabet, and to engage in tasks and behavior consonant with the learning orientation and requirements of schooling. With reduced strength, this association holds for working-class Whites as well.

The Black working-class parents, on the other hand, did not seem to take IQ or its scholastic indications into account in predicting their children's performance in school. Thus, upon entry into school, children of the Black working class, like their parents, may not yet have formulated a conception of the rules and requirements of formal intellectual performance. In short, while their aspirations are high, they are uncertain of what they must do to realize them and, after that, how they should do it. One consequence of this missing orientation may be that Black working-class children are less likely to initially grasp the relationship between school work and the quality of their performance. Should this be the case, it does not mean that the working-class children do not, or are not willing to, work, nor that grades are unimportant to them. Rather it implies that, at the outset of schooling, they are not familiar with, do not grasp, and are not directly rewarded for the work that is necessary to achieve the grades they desire. Hence they may either not perform the work in sufficient amount, or they may perform work that is too often irrelevant to the requirements of schooling.

The fact that working-class children do not adjust their expectations as a function of the grades they receive suggests that the connection between their own behavior and their grades is at best only partially made. One imagines that grades might take on something of a mystical quality, appearing on report cards and to be taken seriously, but in the child's mind remaining causally unconnected to anything the child has done to determine them. Since effort *per se* was not directly rewarded, the connection between work and grades was seldom made; only the substantive failure, which comes to them as a surprise, is experienced and reinforced. Grades, as a result, may take on a random or chance character, with the child feeling helpless to do anything about them. In time, one might expect to see such children work out their own explanations for their low grades; for example, they weren't interested in school, they didn't do the work on purpose, and the like.

Middle-class children, on the other hand, took account of their likely performance in a more realistic manner, apparently deriving their estimates from assimilation of their parents' views of their intelligence and the nature of school work. They seem to have had a better idea of what would be required of them to obtain the grade they predicted and to estimate their likely success in carrying out the work as a function of the ability. They saw the relationship between their own work behavior, how smart they thought they were, and the grades they received. Report cards should be far less often a surprise for middle-class children than for working-class children, because middle-class children know something of the kind and quantity of work that must be done to get the grades, and they have a fairly good notion of how likely they are to be able to perform the tasks that produce the grades. They know, and can anticipate, how well they've done and will do. Even more, in these schools, they were directly rewarded for their work, regardless of its quality. Thus they were "socialized" to school work by being rewarded for behavior that is closely associated with achievement, without at the same time being held responsible for the substantive accomplishment. In a sense, they were held harmless from achievement, while all attention was given to reinforcing the role of work effort in learning.

Finally, all of the foregoing should be understood in the operating context implied by these schools' grading procedures. If Entwisle and Hayduk's schools are in any sense typical of schools in this society, profound lessons may be learned from the simple procedure of differentiating rewards or grades according to level of achievement and level of effort. The magnitude of the concern is reflected in the development of standards of competence, tests of competence, and the like, most of which are aimed at ensuring a minimum level of achievement in all children, but, in fact, have consequences only for those least likely to achieve, namely either lower-class or low-ability children.

Entwisle and Hayduk find that achievement comes first in schools serving working-class and, by implication, lower-class children. Conceivably such schools assume that their primary task is to enlarge or improve the child's reservoir of information and cognitive skills. The position presumably rests on grounds that, upon entry into school, poor children are comparatively deficient in this regard and that strict and substantive criteria of achievement will best serve

to bring them up to acceptable performance. Rewards for work are delivered by indirection through grades, and, since the grades are usually low, so are the rewards or the returns for labor.

Middle-class schools appear to assume that the child enters school with a level of information and cognitive skills sufficient to perform successfully and, hence, will profit most from the development of motivation to work. This position provides operational validity to the teacher's belief (Weiner, 1972, 1974) that level of effort is causally related to achievement and that efforts to impress upon the child that work is important to achievement will best serve the long-run as well as the short-run interests of learning. Thus a "softer" criterion is used in evaluation of performance, but one that should lead the child to conclude that school work is important in the determination of grades and, from that, that work will be important to his or her prospects for success. By this criterion, middle-class children who do poorly, that is, work less than they should, will be reminded of their deficiency with harmless low grades and prompted to remember that they must literally work harder to improve their grades. In any case, the children are given directly reinforced experience with the one aspect of schooling, work, that is both causally related to learning and is also a resource uniquely within their own control.

In this light, working-class schools, by depending on strict criteria of achievement, apparently both discount the child's low ability to successfully engage in the learning process and fail to directly provide a cause-and-effect awareness of the relationship between work and grades. The children seem to have been left to discover for themselves the amount and kind of work required for learning. Little harm might result if their entering behavior was as comparably sophisticated and efficient as that of the middle-class children; their level of achievement might sustain and satisfy their aspirations since their achievement might be as high as their ability and the school's quality together would enable. But without the work sophistication and efficiencies and without the intellectual connection between the kind of work and learning, the rewards will be few and reserved for those children who behave in a manner consistent with the latent determinants of learning, sustained and appropriate effort.

Thus it is that, at least in this case, working-class children who, compared to middle-class children, were least adept at the learning process were nonetheless graded according to the result of that

weakness, while the work procedures that undergird and directly determine acquisition were the sources of rewards for those middle-class children already most proficient.

If children are directly rewarded for their level of effort, they can connect the work to grades, they can recognize that work is to some degree linearly related to the quality of the grades they receive and, less directly, that, if they want to learn, they will have to work. Further, direct rewards for effort, an attribute over which they have personal control, encourage them to look to their own labor as a resource for learning. Since, among the various learning events that take place in school, the amount and efficiency of student work is, with little doubt, the most directly and causally tied to achievement, it follows that rewards for work and their motivational consequences will likely raise the child's sense of responsibility and self-determination, with salutary consequences for self-esteem. From this experience, the child should come to perceive himself or herself in control of the learning situation, able to validly predict his or her own grades, and ultimately able to adopt a self-directed work routine, based on the knowledge and experience accumulated from the results of the labor.

If true, and it is consistent with other evidence (Covington & Omelich, 1979), this analysis has substantial power for predicting the likely level of achievement in settings that require ever greater degrees of valid self-assessment and self-direction, that is, in secondary and higher education. It is worth noting that self-direction is the key value of the middle class, while conformity to authority stands as key for the lower class (Kohn, 1977). The schools serving the two classes of children clearly reflect the value difference in their operational format. In the short run, the difference may be syntonetic for achievement, given the characteristics of the two classes of children. However, there seems little doubt that one of the desired ends of education for all children is development of the ability to knowledgeably engage in the behavior that produces learning and to continue that process in settings, notably high schools, universities, and professions, that require self-direction and personal responsibility for work.

Thus, the first aim of school should be to develop a cause-and-effect attribution in working-class and lower-class children between grades and the kind and amount of work that must be expended to get them. Establishing the attribution will require direct instruction

in the role and methods of school work and how to perform it as efficiently as possible, coupled with grades that reflect mastery of the methods and efficiencies of school work as well as the substance.

The second aim of school should be to enable children (and their parents) to make valid assessments of their abilities and to construct a set of expectations that reflects their ability conditioned by the amount of work they may reasonably be expected to perform on behalf of achievement. To fail to do so develops a situation of inevitable failure in those children whose aspirations substantially exceed their working potential, a situation that is highly likely among both low-ability children and children whose ability is suppressed by certain motivational properties that are critical to achievement.

Ability, motivation, and work: Origins of labor-intensive learning

I will turn now to the second source of information for this analysis, that provided by Atkinson and his colleagues in their discussion of the relationship between motivation, work, and ability. As with the Entwisle and Hayduk results, the discussion will be speculative, and, I hope, heuristic.

Atkinson's point is simple: Certain beliefs underlie academic motivation, academic motivation underlies academic work, and academic work underlies academic achievement. In Atkinson's view, ability, in this case intelligence, is a multiplier for work, a "mental" effect or characteristic of the person that provides for greater or lesser returns per unit of school work invested. Interpretively, this means that high-ability children have a high multiplier; their work produces greater gains per unit of labor. They may work less to achieve the same level as a child with a lower multiplier, or they may work more and achieve more than a child that works as hard, but against a lower multiplier. Children with a high multiplier will invariably be those who with hard work will lead their class or, missing the desire to work, will appear to be sailing through school, making decent grades and hardly exerting themselves to do so.

A similar relationship holds for children of midlevel ability, except that the achievement level is reduced proportionally by the lower multiplier. Given sufficient work, midlevel children will sometimes exceed the achievement level of high-ability children who

work very little. But competitive schooling for midlevel children is one of continuous frustration; they always do well enough, but seldom reap the returns to their effort that accompanies a higher multiplier. For midlevel children to persist in competitive academics, the drive must come from somewhere other than the feat of winning. The quality of the drive must be such that it keeps them working despite the absence of competitive recognition.

Low-ability children might be viewed as children with a low multiplier. Compared to children with higher multipliers, their achievement is most closely tied to the amount of labor, the units of work, they invest. In this light, low-ability children face a situation in which they can never compete successfully against children of higher ability who work as hard or harder. They are forever in a position in which their entire academic product is determined by how much work they put in, and, except for those peers who work less than they do, they are forever at a competitive disadvantage no matter how hard they work. They can be understood as children with just enough ability to equal or barely exceed some threshold of academically acceptable performance; they are just able to pass. They can rise above or fall below this minimum standard as a function of how hard they work, but they will always face the fact that, to pass, they will have to work very hard. There is not much to reinforce such effort since virtually all the usual rewards for academic performance go to high-ability children. Competitive schooling for low-ability children is at best sheer drudgery, and one might expect such children to often dismiss it as simply not worth the effort.

Work and motivation

Atkinson's theory and evidence also suggest that the returns to work are not only higher achievement, but, given the relationship between measures of intelligence and exposure to the kind of information they test, higher ability also. That is, as measured, a child's apparent ability will rise as a function of the kind and quantity of information he or she accumulates, which, while perhaps unrelated to "true ability," nonetheless reflects the acquisition of a greater, and academically more functional, ability level. But we have a problem with our assessment of ability, in that we are seldom sure whether a low-scoring child is unmotivated, unable, or mismeasured. If chil-

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dren are unable, we can make provisions for them, but, if they are unmotivated or mismeasured, something else is required so that they might express the ability that is latent in their attitude or the wrong score.

Atkinson identifies one belief that is a linchpin of achievement; namely, the degree to which children believe that their grades play a major role in the realization of later life plans. That belief keeps children at work in school and, as a function of true ability, mediates achievement. Without the belief, children perform at a level consistent with ability alone. High-ability children, those who easily absorb instruction, pass easily, but without the distinction that work would bring; midlevel children get C's, but they stay in school and graduate; low-ability children will often fail when, without the belief, they rely exclusively on their ability to get them through. Thus the children most at risk for this missing belief, that is, the work-inducing motivation, are low-ability children whose most effective, perhaps only, resource is their labor.

Keep in mind also that the missing motive reduces every child's achievement, regardless of class or ability. If the motive was weak or missing in a substantial number of children regardless of class, or in a certain class or kind of children regardless of ability, we might easily mistake the shortfall in average achievement as a sign of lower ability in either group of children. Indeed, as matters stand, ability and class effects are so intertwined that we can't tell whether low performance is due to low ability or whether the performance is suppressed by the consequences of the child's conception of school. But the two together seem to make lower class indistinguishable from low ability.

Unskilled work and labor-intensive learning: The source of failure

Since the lower end of acceptable school performance is within reach of virtually everyone, there is little reason to believe that low ability alone could explain such a shortfall in minimum achievement and persistence to graduation as we have seen in many schools. It seems far more likely that the deficit is born of a combination of motivational and work factors that, without any intervention to the contrary, will defeat even the best intentioned low-ability child.

Such children enter school with sufficient ability that, given immediate, considerable, and efficient work effort, they should be able to produce at least to a level sufficient to pass them successfully through the school. But in not making the connection between grades and the future and in not knowing the rules of operation that govern academic achievement, they are unable to act in a fashion that, had they known what to do, would have found them maintaining steady, even if unspectacular, progress. They fail, not because of intellectual deficiencies, but through the effects of the missing perspective and consequent decrement and inefficiencies in labor. As they fail, their aspirations are lost and they come to believe that they are doing all they can to get ahead, but it's not enough and it certainly isn't producing any rewards. They seldom experience academic success, since their academic work, kept inefficient by the missing sophistication and know-how with regard to intellectual work, is insufficient to turn their aspirations into achievement. The end is an experience of hopeless inadequacy, often replaced by hostility growing out of continued exposure to a situation that demands a product they cannot deliver, no matter how badly they might want to and, sometimes, no matter how hard they try.

Few children enter school with much sophistication about school work, and only with considerable experience do they learn how to achieve some efficiencies in their work effort. Most never become efficient workers; they are seldom deliberately taught to be by the schools or by their parents, and hence most never manage to extract the maximum amount of learning from the work they do undertake. As a consequence, the production capacity of most children is never reached, perhaps even less now than in previous years. The loss to society is unknown, but doubtless, of some magnitude if we believe the various indicators of achievement. For poor and low-ability children it can be disastrous. Not only are they the most at risk, but also, from the evidence, the least likely to receive either direct or indirect rewards for the effort they expend, much less instruction in how to get the most from their labor.

Summing up, background translates into the following effects that are directly related to achievement and explain why background is apparently so robust in determining school performance:

1. Among parents, there is class-related differential sophistication about matters of academic life, the behavior required to benefit

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from school, and the orientation to intellectual or mental tasks and behavior.

2. Among parents and children, there is differential knowledge and beliefs about the relationship of school to later life. For the poor only a tenuous connection is made between school and life, and the motivational properties that accrue to that belief and produce the work necessary for achievement are lightly held.
3. Among children, there is variable ability, effort, and efficiency in carrying out the tasks of schooling. Because of the low multiplier, work is crucial to the success of low-ability children. The amount and quality or efficiency of the work substitutes for a higher multiplier and directly determines the achievement level of the child.

If the missing work sophistication and motivation were supplied, even belatedly, there would be reason to expect a positive change in performance of lower-class children, one that at least, or at last, was a direct function of the child's true ability. As it is, low or average ability is too weak to overcome the restraints imposed on its expression by the missing motivation, inappropriate or inefficient work skills, and tangential assumptions about the requirements of learning. Since most children have low or average ability, it is not surprising that average achievement for poor children is low: only those of high ability among the poor can break out, and their performance is probably itself less than it should or could be.

Before recommending some procedures to cope with this situation, I would like to carry this analysis into an interpretation of the effective-schools research.

Effective schools: What is working?

Schools are established and conducted to elicit behavior that is believed to promote, or at least be consistent with, the acquisition of knowledge. The knowledge itself, being largely academic, may have little relationship to the immediate or past experience of many children and only unclear implications for their future. Withal, the accumulation of that knowledge, called learning, is facilitated by certain characteristics of the children, among them:

1. ability: the ease with which instruction can be absorbed, recalled, and sometimes generalized;

2. instrumental orientation: the belief that information of the kind instructed is a personally valuable possession and can be used to gain a desired outcome; and
3. motivation: a desire to learn, expressed as systematic work of a kind calculated to promote mental retention of the material of instruction.

The accumulation of this knowledge is also facilitated by a certain kind of context or medium in which it is delivered. This context might be understood as providing the conditions for learning, conditions that, if present in optimum degree, will permit a child to learn as much as ability, orientation, and work will permit. These conditions include the following:

1. a stable environment, a school, as free as possible from distractions that interfere with the learning task;
2. a body of information, a curriculum, organized in a form suited to study and acquisition; and
3. a method by which the information may be systematically taught.

Like student ability and work, these conditions can interact in the production of learning. The optimum is achieved when each condition is executed according to our best available means and design. Reductions from the optimum of any of these conditions will reduce student achievement; most schools are operating on a suboptimum standard.

For example, consider the effect of environment. For learning to occur, the child must be in an environment that promotes or is consistent with attention to the task of learning. Operationally, this means that any distraction of the children's attention, anything that diverts their energy to activities or interests other than learning, anything that reduces the efficiency and amount of their work effort, will reduce achievement of the kind the curriculum and instruction intends. To learn efficiently, children must attend to the experience to be mastered.

If children cannot, or will not, pay attention, they will not be able to receive the intended information or experience, however well presented, and, without that fundamental condition, they will not be able to engage in productive work on behalf of mastery. Thus schools might be assessed for effectiveness from the standpoint of the

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degree to which they are able to provide the conditions that satisfy the basic production requirements of learning. For example, we can count the number of effects that occur in schools that reduce the amount and efficiency of a child's work. Among others, we could include the following disruptions to students' attention and the amount and efficiency of their work:

1. disorganized or inefficiently managed classrooms (Kounin, 1970);
2. student and teacher absenteeism (Wiley & Harnischfeger, 1974; Summers & Wolfe, 1977);
3. fights and unruly behavior in the classroom (Rutter, Maughan, Mortimore, & Ouston, 1979; Summers & Wolfe, 1977);
4. strikes and arguments among and between staff, "downtown," and school boards (presumptive but plausible);
5. incompetent instruction (by definition);
6. fewer or shortened school days (Wiley, 1976);
7. leaving class for remedial work, that is, "pull out" (Glass & Smith, 1977); and
8. the first day of spring (law of nature).

The list could go on indefinitely. There is no end to events and procedures that may distract children from their work or render their effort inefficient. Many intrusions are born of the exigencies of life and law; some can be prevented but many cannot, and some, for example, rest periods, may even facilitate learning. But in the strict sense, any such distraction can be counted upon to reduce, by some fraction, the amount and quality of time available for learning, regardless of ability or motivation to do well. The quality of performance, the degree to which children may bring to bear their personal resources on learning, is determined in large part by the degree to which the school is able to provide them with the context that permits undistracted attention to the stuff of learning. Whatever that stuff may be, whether esthetics or essays, arithmetic or athletics, all of it is dependent on the stability and tranquility or, if you will, the rate of distraction that directly and indirectly reduces both the power of instruction and the power of ability and effort.

On the other hand, certain characteristics of schools facilitate learning by promoting conditions congenial to the work of learning.

Among them:

1. consensus among the school staff on their purpose and goals in schooling (Weber, 1971; Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979);
2. activity or classroom management designed to minimize unproductive time and behavior (Sowell, 1976; Rutter et al., 1979; Kounin, 1970; New York State Education Department, 1974);
3. activity or classroom management designed to develop and use the reinforcing effects of both peer pressure and peer support (Bossert, 1979; Rutter et al., 1979);
4. principals who are looked up to and admired, or at least respected, and who appear in the classroom and lend their authority to the teacher's instructional purpose (Brookover et al., 1979; Kean, Summers, Raivetz, & Farber, 1979; Maryland State Department of Education, 1978; Sowell, 1976; Spartz, Valdes, McCormick, Meyers, & Geppert, 1977; Weber, 1971); and
5. teacher's aides or parents who, through their presence in the classroom, lend their influence to that of the teacher on behalf of reinforcing, enforcing, or merely keeping the children on task and their attention to work (Armor, Conry-Oseguera, Cox, King, McDonnell, Pascal, Pauly, & Zellman, 1976; Brookover et al., 1979; Maryland State Department of Education, 1978).

Implicit in this list is an underlying variable common to each that explains the associations with student achievement that we attribute to some characteristic of the school; most are indicators, direct or implied, of the amount and efficiency of student time and work that can be given to learning.

Viewed from this perspective, schools that intend to raise academic achievement either reduce distractions to learning by eliminating the events or behavior that take the child's attention or energies away from the task, or they are constructed and managed in such a way as to provide the climate necessary to realize the returns that accompany undistracted work. An atmosphere of minimum distraction is essential if motivation and efficient work are to receive optimum consideration in learning. Student achievement will be raised when all counter-learning distractions, except those judged more important than achievement or beyond control of the school, are removed from the child's experience. Short of this goal, we may

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expect achievement to be reduced in proportion to the number and severity of the disruptions.

Improving the capability of a school to produce appropriately motivated and efficient work in its students is undoubtedly the single most powerful treatment we could devise to raise both the level of achievement and functional ability of the child. Teacher quality and curriculum content may perfect the experience for optimum schools, but neither has the causal and direct impact on student productivity that comes from the student's own motivated hard work. The point, though often obscured, has not been lost on certain schools. Of the schools we have discovered to be unusually effective, most may be characterized as follows:

1. Effective schools reduce the avenues for discretionary and academically unproductive behavior in students. (Armor et al., 1976; Brophy & Evertson, 1976)
2. They focus the energies of students on school work through the use of teacher's aides, tight-ship management, raising the morale of teachers, and the like. (Sowell, 1976; Spartz et al., 1977)
3. They improve the efficiency of work by introducing better or more narrowly organized material and instruction, as with basal learning curriculum, direct instruction, smaller classrooms. (Armor et al., 1976; Good, 1979; Kean et al., 1979; Kounin, 1970; New York State Education Department, 1974; Slavin, 1977)
4. They establish the legitimacy of schooling or introduce fear of failure as a motive in situations that find the students without their own notions of the worth or desirability of schooling. (Cooke, 1980; Schain, 1980)
5. They intensify work per unit of time, that is, require more and make the children work harder without extending the length of schooling or the school day. (Keisling, 1978; Spartz et al., 1977; Stallings & Kaskowitz, 1974)
6. They reduce distractions to learning and work by imposing discipline, rules, and other schoolwide shared sanctions. (Rutter et al., 1979; Sowell, 1976)
7. They develop a critical mass of achievement-oriented students, who set a standard of performance for all, and thereby encourage

collective attention and work on behalf of meeting their example. (Henderson, Mieszkowski, & Sauvageau, 1976; Kean et al., 1979; Rutter et al., 1979; Summers & Wolfe, 1977; Winkler, 1975)

Not all these methods have proved equally productive, as the effective-schools literature tells us, but they are all consistent with the goal of keeping children on task and making their work effort as productive as it can be. Effective schools may do little else, but it may be all they need to do to satisfy the minimum conditions for learning.

Teaching children how to persist and produce by teaching them how to go to school and what they must do to extract sufficient rewards to support and justify persistence is not trivial. The recent review of Head Start programs (Lazar & Darlington, 1979) indicates that the effects of such programs translate into an increased likelihood that poor children will perform sufficiently well to pass; not that they become geniuses or raise their IQs 30 points, but that they are less likely to be assigned to special classes and more likely to be promoted. My interpretation of this data is that the children learn how to go to school, and, of itself, by orienting the children, the experience is enough to enable them to more efficiently utilize work on behalf of achievement. The product of this labor is passing, the motivational consequence is persistence, and the payoff is graduation.

But we could be doing much more to enable students, especially poor children, to capitalize on their own resources. For example, persistence can be taught to many low-achieving children simply by making them aware of the relationship between effort and achievement and supplying appropriate experience (Andrews & Debus, 1978; Dweck, 1975). It is, after all, the student who learns, and it is what students give to the enterprise of their energy and attention that will determine how much they retain of whatever is provided to them. For less than mysterious reasons, we have been at pains to avoid treating students as the locus of production, substituting in its place various characteristics of schools, teachers, and curricula. In so doing we have spent much time and money on indirect treatments, experiences to which the children are exposed, all aimed to improve their performance. The evidence on the returns for these efforts—as seen, for example, in the effective-schools research—suggests only modest and sometimes unexplainable correlations with

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student achievement. These effects may all be understood as weak or indirect influences on the amount and efficiency of the child's work effort. In short, the evidence indicates nothing so much as a failure to find a treatment that would raise ability or improve the efficiency of work without any modification of the child's behavior. In this light, we have found that treatments and innovations cannot enhance or substitute for ability and work except to a marginal degree and that our aspirations for equity may require working directly with the children to improve their methods of acquisition. Given equal skills in the process of learning, we might also expect better results in the acquisition of substance.

With this in mind, let me review the conclusions that can be drawn from this analysis:

1. Poor and low-ability children enter school with too little experience or understanding of the requirements of learning and schooling. They often have little idea of the connection between intellectual work and school performance, or the kind or amount of work necessary to learn the lessons of school.
2. Intellectual work is crucial to full realization of mental ability. Children of any ability will fail to realize their achievement potential if they work at suboptimum levels. Since ability is relatively insensitive to school practices, low-ability or low-performing children are essentially dependent on their own work for learning. Since we have not yet invented a machine or a method that substitutes for ability, true or functional, we will have to direct our attention to work, a more sensitive source of production.
3. Work is dependent on motivation for its enactment. The best-known effective school motivation is a belief that school grades are important for later life. It is a motive that seems to be scarce in poor and low-ability children. Others might substitute, for example, fear, and some have been tried, for example, relevance, but their power is slight and often not in accord with democratic ideals.
4. A powerful mediating factor in the production of learning is the character of the schools. Schools in which children are distracted from their work, by definition, undercut their productivity and achievement. Schools that focus the child's attention and effort to

the task of learning encourage achievement according to the child's ability and effort. In an optimum setting, children will perform as well as possible within the limits of their own ability and enterprise, and the level of achievement in such a context will doubtless be responsive to the quality of the imposed learning experience. Without these conditions, however, little of the conventional notions of quality, for example, experienced teachers, will have sufficient power to overcome the distractions to work.

Recommendations

Extraneous distractions that degrade the conditions of learning should be reduced to a minimum. A balance will have to be struck between the requirements of learning and the benefits of personal and public discretion, because if achievement is the first order of business, there is little room for behavior or policies that are antagonistic to learning. Careful consideration should be given to the social priorities of school. If student achievement is determined to head the list, the many distractions to learning that beset, or are generated by, public schools and are at cross-purposes with achievement will want review with an eye to keeping or tolerating only those necessary to the realization of goals society holds to be more important than schooling. Of those left, we will also want to reconcile them with the conditions of learning so that, for once, we can obtain a better society and still make it possible for children to learn the skills necessary for a productive and self-sufficient adult life.

Direct intervention is needed to improve the level and efficiency of the child's work effort. We must enable children to get as much out of their labor as possible by improving study habits, coupled with a syntonetic purpose and intention for the organization of information, planning and management, instructional procedures, and the like. All children can benefit from a systematic orientation to the task of schooling combined with instruction in how to learn. Few schools treat learning as a task that can be mastered more efficiently if approached with certain skills and methods of study. The lessons of "test-wi-ness" and the flap over the coachability of the SAT ought to tell us that unsophisticated work is incompatible with optimum achievement. Knowing what to do and how to do it most efficiently are crucial to the full expression of ability. It is a skill that can be

taught to poor and low-ability children by the schools; it is not an inherent consequence of privilege or a *fait accompli* of poverty, unless we do nothing to change it. Learning how to learn is as important, more perhaps, than learning itself; we get very little of the latter without a great deal of the former.

This is not a reactionary point, nor is it merely an affirmation of the Protestant ethic. Compatible and efficient work style and method are left to develop by chance in most schools, and some students, typically the middle class, seem better at it than others. Middle-class children may have the same advantage in this arena as they do with standardized tests. Children with high-ability or high social-class multipliers can get away with less work, efficient or not, than children with low-ability or low social-class multipliers, and they always have their parents to teach or coach them. Children with low multipliers, more than any others, must make the most of their time and work, and we could help them do so with little cost and great profit.

Direct intervention is needed to provide the child with the necessary sophistication about the process of school—for example, the connection between work and grades—and the behavior necessary to effectively extract the information available—for example, motivated attention and effort. Head Start is an example of current policy and programs that, at least weakly and indirectly, provide this experience.

Finally, academic motivation is the key and probably determines the impact of schooling more than any other single variable. The belief that school matters is at once a necessary and probably sufficient condition for learning, but beyond belief for many poor and minority children. Folklore, politicians, and experience combine to defeat the motive for poor children, and we have not yet found an effective alternative. Thus we find Black and other minority children whipsawed between their parents and teachers, who exhort them to learn and succeed through education, and the voices of expedience, peers and politicians, who say there is no future and little has changed.

It profits poor children little to say that until society changes there is no justification for them to believe that school is important. Defeating the motive to learn in this manner is a devastating variation on the self-fulfilling prophecy. The truth is that, without school, without graduation, there is no hope in a world in which most of

one's competitors have graduated. A method or a message must be found that will convince poor children that school is worth it and that their future depends on it. With appropriate motivation, who knows what range and level of ability may emerge? Without it, the prospects for achievement in a conventional setting are as grim as the data imply.

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THE TASK BEFORE US

Ernest Q. Campbell

*Professor of Sociology and Dean of the Graduate School
Vanderbilt University*

In 1965-66, I participated in a survey ordered by Congress and conducted by the U.S. Office of Education, the Equality of Educational Opportunity Survey, which brought to public focus an emphasis on *outcomes* in assessing whether opportunity has been equal.

This was a massive survey and its impact on public policy and perception was massive. The fundamental findings were these: 1) There are important racial differences in educational readiness among entering first-grade students; that is, the schools do not create inequalities. 2) These racial differences persist throughout the school years, increasing in absolute terms and remaining constant in relative terms; that is, the schools do not remedy inequalities. 3) The problem of racial differences in educational competence is national, not regional; that is, the old Confederacy is not the only culprit. 4) The great variety of input measures, features of schools on which one school might differ from another, do not explain pupil differences; that is, the remedies we customarily trust and urge don't work. 5) Characteristics of the student population affect learning. For example, racial composition of the student body affects learning. Specifically, Blacks in majority White schools have higher test scores than Blacks in other situations, and, except where Blacks are a substantial majority, the presence of Blacks does not adversely affect the scores of Whites. 6) Certain beliefs about one's self correlate powerfully with test performance.

Widespread conclusions as to public policy included these: 1) Schools are insubstantial in their educational effects. 2) It is good for Blacks to attend majority White schools. 3) Racial inequality in education achievement is a massive national disgrace, and a massive effort to eliminate these inequalities should have high national priority. 4) Bussing and other devices to achieve racial balance in schools are desirable. 5) Teachers' expectations and other labeling processes are influences upon the learning of children, and sensitivity training

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to improve teachers' tolerance and appreciation for those socio-racially different from themselves deserves emphasis.

Those were optimistic days, and we were heady with the belief that all social ills could be remedied. We were optimistic also about the national capability and the nation's future. Much of this optimism has since evaporated. We now seem philosophically resigned to the intransigence of social evil. This changed national mood must be kept in mind as we think together.

Bussing has encountered increasing resistance. The resistance comes from a variety of sources and expresses itself in a variety of ways. Large numbers of Whites have left the public schools. Various Blacks charge that bussing is inherently racist and advocate the value of the neighborhood school to the Black community. Various Whites support the neighborhood concept too. The educational benefits from bussing have been challenged. There is no longer any reason to believe that any workable system of bussing will contribute in any significant way to reducing the racial difference in educational attainment, unless the beneficence may show itself in subsequent generations, that is, in very long-term positive effects.

Important boundary conditions

It is time to ask ourselves what we want to accomplish and how we think we can do it. The following boundary conditions seem important. 1) Minorities are politically powerless in a relative sense, almost as a matter of definition, but not so much so that the more blatant forms of discrimination can be practiced upon them. The law is on their side—somewhat more in its content than in its practice—and the opportunity to exercise choice of schools, curricula, and the like is greater than ever before. 2) Although the distribution of wealth and position still is radically unfavorable to Blacks, the number of Blacks who have achieved comfort, wealth, position, power, and prominence is now sufficiently large in numerous communities to bring effective pressure on the political process. 3) Once a right is established, energies devoted to establishing that right may be directed elsewhere, such that the exercise of that right may be subdued though its maintenance continues to be seen as vital.

As a derivative of the third boundary condition, we may expect to see the Black community look within itself for resources, principles,

and direction, but in a vastly different spirit from being forced to do so by the institutions of discrimination and segregation. Separation freely and selectively chosen is a vastly different phenomenon from separation externally imposed and required.

Let me return to the EEO study and its results in order to explore two themes: 1) the relation between equality of opportunity and excellence of outcomes, and 2) the nature of minority self-determination in a pluralistic society.

Less attention to equality, more attention to excellence

I mentioned earlier that we shifted attention to *outcomes* in assessing opportunity. There is a second step to be made: lessened attention to equality, more attention to excellence. There are two flaws with the equality concept in racial context. One is its nearness of meaning to similarity or identity—if we are indistinguishable, how can we not be equal? The second, to which I'd like to give a bit more attention, is that equality is a relative term whereas excellence is an absolute one. This conference, I am pleased to say, uses the word *excellence*, not *equality*. It is possible to remove a man from a ditch by lowering the level of the earth around and near him, just as it is possible to eliminate the difference between high achievers and low achievers by eliminating high achievement. The public school authorities in my home community, in their delight that the pupils now score at the national average, seem indifferent to whether the national average is any good or may have plunged compared to previous times. Resources may be diverted to slow learners in such volume as to hobble the able and thereby reduce the gap between the two groups. So much attention may be given the educationally handicapped as to handicap the educationally superior, with overall mediocrity its consequence. Indeed, use of the word *superior* may become a "no-no," and to be called superior may be to bear an onus. We may be equal by being equally bad as surely as by being equally good.

Excellence, on the other hand, is an absolute term. It does not direct us to compare me with you or us with them. It focuses instead on how well we or they are doing, compared to some abstract standard. True, a comparative sense is often implicit. If I say that Brown

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is an excellent shortstop, you will appreciate a context that establishes whether I mean relative to all the major league shortstops of all time or relative to all the 9-year-olds in this year's Gray-Y League in this town. But the point remains: We can discuss excellence but not equality without intergroup comparisons, and the words *In what sense?* are not so insistently required by the word *excellence* as are the words *Compared to what?* required by the word *equality*.

This means that Blacks may define and measure their own excellence without asking, How're we doing compared to Whites? And excellence is not inherently bonded to the performance of Whites. Equality can't exist except as Blacks do as well as Whites; excellence can. Pressures toward equality of performance are much more threatening to the concept of excellence than are pressures toward equality of opportunity. This is so because the latter says that everyone should have an equal chance to reach as high as he can, including the top, whereas the former says that all groups in equal ratio should reach the same levels and that, if necessary, the top might simply be abolished.

Excellence in what?

But I have begged another question. Both excellence and equality require specification of substance. Excellence in *what?* Equality in *what?* Perhaps I am excellent in trivial and valueless matters and you are excellent in matters of vast importance. Perhaps you and I are equal in things that don't matter and unequal in things that do. Perhaps I am superior to you in variables easily and often measured (e.g., verbal ability) but you are superior to me in variables measured infrequently and only with difficulty (e.g. civic mindedness). It is here that our conference title has perhaps not led us to where we need to be led. We of this conference are interested in, practiced in, and devoted to formal education, especially of a literary and scientific sort. It is not surprising that we assume we know what we mean by education, and that what we mean is intimately connected to verbal fluency, mathematical reasoning, scientific knowledge, and historical and literary analysis—knowledge that underlies the professions but not the crafts, the bureaucracy but not the streets. We neither teach nor measure happiness, gambling, loving, quilt making, coin collecting, dunking and dribbling, civility and civic mind-

edness, relaxation, conviviality, creativity, insight, loyalty, courage, integrity, kindness, insight, wisdom, wood carving, or interpersonal skills.

I mention this interesting point only to bring it forward to our attention. It is not surprising that those of us who gather for conferences and reflections of this sort, persons responsible for formal schooling, should reflect the interests of the enterprises we are engaged in and the undertakings to which we give our careers. Nor is it necessarily unfortunate or demeaning that we do so. But it is useful to remind ourselves that there are virtues additional to those we hold dear; we are as capable as anyone else of a certain narrowness of presumption. When we speak of excellence in education, we have to describe the *substance* of excellence and we have to recognize two very important facts. What we consciously teach is only a fragment of what students learn, and what we consciously test and evaluate is only a fragment of what we teach. I happen to believe that what we consciously teach is extremely important and that what we test and evaluate is extremely important. So I can accept that there are very important skills and knowledge areas with which we are not concerned, and perhaps ought to be, without denigrating the skill and knowledge areas with which we *are* concerned.

Overall, the skills that Blacks need for security and success in American life are the same skills that Whites need. Overall, a minority in both the numeric and power senses is unlikely to chart many new paths to glory. Such counterexamples as jazz and professional basketball are likely to be rare exceptions. (Harry Edwards has been eloquent in questioning a culture that encourages so many to spend so much hope and time seeking to become professional athletes, when there is little transferability of skills and the number who succeed are an infinitesimal proportion of the number who hope and try.) Overall, the skills with mathematics, language, reasoning, technology, and self-presentation that a modern nation requires and rewards are the skills that Blacks must have in as much abundance as Whites to achieve either equality or excellence in the areas where it counts the most, those most richly recognized and rewarded in the society we live in. At the risk of seeming unsympathetic to the divergent strains of American culture, let me emphasize that there are dominant motifs and values in American life and the minorities who display mastery of and conformity to these dominant motifs are the ones who will succeed, be rewarded, receive respect, acquire power,

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and escape oppression. I do not speak the whole truth, but I speak an important truth when I say that minority self-determination—the free, unfettered definition of values and establishment of lifestyle—is unlikely, the more so on major than on peripheral issues. The dominant contours are established, external to the minority, by the majority.

Locating and understanding the success stories

We are ready to describe the task before us. Let me return once more to the EEO study. I noted in beginning these remarks that we found very little difference, school to school, in the educational impact schools have on their students. There is a remarkable sameness. The techniques we used, mass survey and multiple regression, *could* have displayed important differences between schools and they did not. This is a very important discovery, but it does not vouchsafe that there are no important differences between schools. It is likely that we did not see the trees for the forest. Great individual teachers, visionary and creative individual principals, outstanding individual schools, and specific success stories would be obscured rather than revealed by the design, sampling, and analytical techniques we used. We may have shown that haystacks surround the needles, but we did not show that the needles are not there. Ours was a *macroscopic* study. The task before us now is the old one of locating and understanding the success stories, abstracting from them the generalizations and principles that can be taught to others and implemented in institutions. This task calls for *microscopic* studies, small, specific ones, resting on extensive observation and intensive analysis, free interplay between observation and hunch and between researcher and practitioner, close attention to the details of how students learn and how teachers teach, respect for the idiosyncratic as we search for the general, variables seen in context, and due distinction drawn between impacts on averages and impacts on individuals. Certain situations may move all students forward in about the same degree, while others may move some students ahead dramatically while actually reversing others.

I think the times are opportune. First, we are ready, partly in despair but largely in hope, to make new plans and try new ventures, knowing that certain things don't work as we hoped they

would and that the task is a tough one. Second, the blunt, intentional use of the state (government) as an instrument of oppression, with its acceptance of segregated institutions, has crumbled. The range of choice for Blacks has increased as the economic and political power of Blacks has increased. This allows more options to be examined more openly, and the maintenance of Black community institutions may now be a matter of choice rather than necessity. Third, social-science and educational-research personnel have become more sophisticated in their observational techniques. The logic of small scale studies, greater tolerance for the educated guess, simultaneous consideration of sets of variables, increased commitment to policy relevance, and other advances, including an increase in confidence, set the stage for a major cumulative understanding based on multiple, specific, limited studies. And finally, although we appreciate the contributions made to the canvas of American culture by street wisdom and Black English and their analogs more than we did some time ago, we are also more prepared than we were a decade or so ago to insist that they cannot substitute in American life for command of calculus and comprehension of computers. Thus the task before us is to seek out, assess, and generalize the success stories at both personal and school levels, confident that the success stories are there and confident that understanding them may help them multiply.